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ORIGINAL ARTICLES.

THE DIAGNOSIS OF PERICÆCAL ABSCESS, AND ITS RADICAL TREATMENT BY REMOVAL OF THE APPENDIX VERMIFORMIS.

Read in the Section on Surgery at the Thirty-Ninth Annual Meeting of the American Medical Association, Cincinnati, May 8, 1888.

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Abdominal surgery can show many brilliant achievements under modern antiseptic methods, but in scarcely another instance does an operation so completely afford its own justification, or when properly timed present such satisfactory results, as laparotomy when performed for suppurative appendicitis.

PATHOLOGY AND CLINICAL HISTORY.

It will greatly simplify the subject under discussion if we can first clear up the nomenclature, which, it would seem, has been more or less confused by the refinements of pathologists and others. We are accustomed to certain distinct terms to express inflammation of the cæcum, of its peritoneal investment, and of the surrounding structures and cellular tissue.

It would seem reasonable that all the niceties of diagnosis between typhlitis, perityphlitis, paratyphlitis and pericæcal abscess can properly be set aside, as without real practical value; since recent pathological researches have demonstrated that, as a rule, in cases presenting the well recognized characters of typhlitis, the symptoms are almost invariably due to appendicitis. Exceedingly rare are the cases where the cause resides in the cæcum. Fitz records but three cases in which pericæcal abscess was caused by ulcerative perforation of the walls of the cæcum; and in each instance it was due to the presence of a foreign body. Pericæcal disease may, then, in most cases, be said to mean disease of the appendix vermiformis.

It seems hardly worth while to consider the conventional division of appendicitis into the catarrhal and ulcerative; for, clinically speaking, although an uncomplicated catarrhal condition may exist, there are no signs by which it can ordinarily be recognized.

Inflammation and perforation of the appendix in most cases, very probably in all cases, is due to irritation excited by the presence of a foreign body in the organ. It has been shown that the foreign substance is commonly a fæcal or phosphatic concretion, or an aggregation of small objects which from time to time have gained an entrance; or the concretion may be composed of epithelial or other constituents aggregated into a hard mass from the ordinary secretions of the parts.

No complete or fully satisfactory classification of the cases of inflammation, perforation and abscess of the appendix can probably at this time be made; but for practical purposes, a division according to the onset and history of the disease, into the acute and chronic varieties, will probably fulfil all necessary clinical requirements.

In the acute disease, the symptoms come on with suddenness and increase in severity, and often very early present the gravest characters Occasionally the disease progresses from first to last with frightful rapidity, so much so that the patient quickly enters a condition bordering on collapse. In one case which recently came under my notice, the child perished with perforation and purulent peritonitis forty-eight hours after the first symptoms were observed.

Possibly such extremely acute cases as the one mentioned might afford an opportunity for still further division into the ordinary acute and the supra-acute, the latter running their course in a very short time, often in a few hours. An explanation of these forms will be given later, when considering the pathology of the subject.

Recently I saw in consultation a case which presented marked symptoms of perforative appendicitis. After the pus cavity was opened the patient became so profoundly exhausted that death seemed imminent and all further exploration had to be abandoned. Surgical interference in many cases is unfortunately so long postponed that a favorable result can hardly be expected.

The close proximity to the peritoneum of such fetid pus as is found in suppurative appendicitis produces very early unusual depression and exhaustion; so much so that occasionally anæsthesia and simple incision is sufficient quickly to give rise to symptoms indicating heart failure. In such cases any further exploration of the abscess cavity is impossible.

In the chronic forms of appendicitis, we have recurring attacks or relapses. Such repeated attacks of inflammation about the appendix region are often followed by a deposit of lymph which forms a barrier more or less complete, sufficient, when perforation takes place, to protect the peritoneal cavity at least for a time. But if operative measures are not undertaken or are unduly delayed, such lymph partitions

often yield, and the general peritoneal cavity becomes involved and peritonitis results.

In other cases the abscess walls form a distinct pus cavity which surrounds the organ, so that when perforation occurs, the contents of the abscess form a tumor, or more or less defined hardness. Such tumors frequently make their way toward the surface, and the superimposed structures become infiltrated and markedly œdematous. In such cases the perforation of the appendix may remain open and a fistula form between the bowel, the abscess cavity and the external abdominal surface.

In January, 1885, I saw a case of this character in consultation, in a lad 11 years of age, who had all the symptoms of perforation and abscess of the appendix. A tumor gradually developed and perforated the abdominal walls. Subsequently I made a free incision and evacuated a large amount of pus. The general condition of the patient at the time did not warrant a search for the appendix. The fistula never closed; the boy two years later perished from pulmonary tuberculosis. In any abscess of the ileo-cæcal region, we should always suspect appendix disease, and an effort should always be made to expose this organ. In no case should a simple evacuation of pus be considered sufficient, especially if the history of the case presented any account of former appendix trouble. A case of this character came under my care some two years ago, in which I simply evacuated an abscess situated in the ileo-cæcal region, and made no investigation of the appendix, as the abscess cavity seemed a closed one. Two years later I was obliged to make abdominal section and removed a diseased appendix, which undoubtedly existed at the time of the first operation.

L. A. B., a stout girl of healthy parentage, and with no family history of cæcal or appendicular disease, had a severe fall upon the buttocks in March, 1884. She was almost immediately seized with a terrible attack of vomiting and retching, which lasted hours. From this time until September, 1885, she suffered with extremely painful menstrual epochs, and from time to time, when tired, had a recurrence of vomiting similar to that immediately succeeding her fall. On September 10, during the progress of one of these vomiting spells, she experienced severe pains in the right cæcal region, the whole seizure lasting about ten days. Another attack developed on September 29, and still others on November 10 and 23. The latter was brought on by taking cold, and in five hours she was compelled to go to bed, and endured the most excruciating drawing pains, which radiated from the right cæcal region to the shoulder blade of the same side. Vomiting continued for some hours. Emesis then ceased, but the pains continued off and on until January 10, 1886, when I first saw the patient. A hardening was then present in the right ileo-cæcal region. Poultices and mercurial inunctions were ordered, which gave very marked relief. She daily seemed to improve, and before March 19 had resumed her household duties. On that date she was much overworked in caring for company, and about midnight was seized with torturing pains in the region of the hardening. These continued until April 3, when I incised the now greatly enlarged mass, liberated a large quantity of fetid pus, and introduced a drain tube. There was apparently no communication with the cæcum or its appendix. The tube remained in for a long time, and the wound did not completely close until August. Her condition, however, had meanwhile improved amazingly, and she was soon quite herself again, being up and about the house in four weeks.

After this, especially when tired out or at a menstrual period, the patient suffered with pain localized about the cæcal region. The attacks resembled colic. Three months after operation she had quite a severe attack of local pain which lasted a number of hours. These attacks, at long intervals, presented about the same characteristics. The last occurred in January, 1888, which was accompanied by more severe pain than any of the others.

During the evening of Friday, March 15, she was taken with violent vomiting and purging. These symptoms continued all night, and through Saturday when the pain was most intense. On Sunday her symptoms appeared grave. Pain was increased on pressure in the right ileo-cæcal region. Abdomen soft, fever, rapid pulse and dry tongue. On Monday the symptoms continued the same, with a temperature of 102°. In the afternoon the general symptoms were more serious. No tumor could be felt, only increased pain. Skin was bathed with sweat. There was marked resonance over the part. On Tuesday the pulse was feeble, nausea and occasional sick stomach prevailed. The other symptoms remained about the same, when diagnosis of perforated appendix with abscess was made. The same morning she was etherized, and the usual lateral incision 5 inches long was made, which came about an inch further laterally than the line of incision of the first operation. The deep tissues of the abdominal wall were somewhat œdematous, and just before the peritoneum was reached, a large quantity of most fetid pus was liberated. At the base of this cavity was clearly visible the cæcum and appendix. The latter was enormously enlarged, thickly covered with lymph and abscess lining membrane. A considerable-sized opening also communicated with the cavity of the general peritoneum, through which small intestines were forced when she coughed.

The appendix was firmly attached to the cæcum, from which it was separated with some difficulty. It was then firmly ligated with stout silk at its junction with the cæcum and excised. The communication with the general peritoneum was then dilated, and through it the intestines were most thoroughly washed by means of hot water irrigations. The abscess cavity proper and surrounding parts were sponged with 1:1,000 mercuric solution. A glass drain tube was then carried to the bottom of the pelvis and brought out through the lower angle of the wound, while a larger rubber tube occupied the line of the same and emerged at its upper extremity.

The incision was then closed and an antiseptic dressing applied. She reacted and continued to do well. Immense swelling of the wound occurred on the following day and necessitated the cutting of all

the stitches, whereupon the cæcum lay in full view at the bottom of the wound, but no prolapse of intestine at any time took place.

Great sloughs kept coming away for many days, also much pus, in spite of every effort to keep the wound aseptic. The deep glass or pelvic drain became dry on the fourth day and was removed on the fifth. From that time the wound was kept lightly packed with antiseptic material and rapidly granulated to the surface, when a few strips of rubber plaster were applied.

Patient's bowels, from time of operation, were kept in a freely moving condition by means of citrate of magnesia and enemata. In less than a month the patient was well, and has since been married. The appendix was found to be the seat of a very large perforating ulcer, situated near its cæcal attachment, but no foreign body was discovered.

The following case I saw in consultation with and operated upon for Dr. Ed. R. Stone, of Philadelphia:

Mrs. G., æt. 34, mother of one child, had been perfectly healthy up to time of last illness, save for occasional attacks of colic which had readily yielded to anodynes, and it was said that she had had a severe attack of pain and vomiting some months before. For two days previous to February 18, 1887, she severely exerted herself and menses were overdue. On that day she had severe abdominal pain accompanied by vomiting. The pain was described as starting in the right hypochondriac region and darting to the umbilicus. No tumor was perceptible, neither was there tenderness upon pressure. Anodynes and counter-irritation were ordered. February 19, pain less, no emesis nor rise of temperature; some soreness and tenderness to the right of the umbilicus. Pain returns as anodyne effects pass off. Bowels have not moved for several days. Abdomen somewhat tympanitic, tongue coated and hard at tip. Evening temperature 100°; pulse 90. Treatment continued.

February 20. Restless night. Vomits yellow material freely. Abdomen tympanitic and tender. T. 101°; pulse 110. Operation advised, but refused.

February 21. Symptoms continue. She is quieter but weaker. Abdomen very large and tender. On the morning of this day I saw her and, although her condition was very unfavorable, urged abdominal section as her only chance for life, as my diagnosis was perforated appendix and subsequent peritonitis.

A free incision was made laterally over the cæcal region, and the appendix found greatly enlarged and perforated in two places, both holes measuring a little more than ¼-inch in diameter. A silk ligature was placed upon the appendix close to the cæcum, and the offending organ then removed. There was also purulent peritonitis. The abdominal cavity was thoroughly irrigated, the region of abscess cleansed and a drain inserted. She died in a few hours.

The following case presents the prominent symptoms which are usually observed in cases of chronic suppurative appendicitis; and this patient has been benefited as much by the practical application of the principles of modern wound treatment as any human creature ever can be. He was a patient of Dr. Frank Woodbury, with whom I saw him in consultation and who conducted the after-treatment.

Charles K., æt. 26 years, had enjoyed good health until three years ago. Since that time he had been subject to frequently recurring attacks of abdominal pain, which would come on without warning whilst he was apparently well, and completely prostrate him. The pain was of a stabbing character and most severe about the lower abdomen and umbilicus, and was attended with great tenesmus of rectum and irritability of bladder. These attacks, after lasting a few hours, would usually pass off, leaving him in a weak condition. During the periods between attacks he kept very well. The last seizure began about April 20 last (1887), when he consulted Dr. Woodbury. He was then haggard, sallow, and constipated; the tongue was heavily coated. Abdominal pain was much complained of. Urine contained much albumen and few casts. He was placed upon usual medicinal treatment, but steadily grew worse. Two days later his temperature rose to over 103°, pain became very severe, there was much nausea and vomiting, and a distinct hardening, but no tumor could be felt in the right iliac region of the abdomen. These symptoms continued to augment until I saw him three days later, and determined that operation was his best and only chance. At the time of operation his condition was discouragingly wretched, that of a man in the dying stages of general purulent peritonitis. Nevertheless, operation was begun and carried to successful termination. The patient was stimulated and antiseptically cleansed. The incision was made laterally over the seat of induration. The latter had now become slightly prominent. An abscess cavity was entered at the depth of an inch below the abdominal surface, a free flow of pus took place and the cæcum and its diseased appendix came into view. A phosphatic concretion resembling a cherry stone was found alongside that organ, but entirely outside it, and evidently was the cause of the whole trouble. The vermiform appendix was greatly swollen and exhibited a perforating ulcer three-fourths around its circumference and very near to the point of its cæcal attachment. A silk ligature was applied close to its root and the remainder excised, together with a large portion of omentum which projected into the abscess cavity. The peritoneal cavity was then thoroughly washed out with warm water, for an opening into the general peritoneum was found, and through it the pus had passed into the cavity of the peritoneum. The abscess walls were then thoroughly curetted and, after a final wash, a rubber drain was carried to the botttom of the pelvis and the wound was partly closed. On the following day, drainage being imperfect, every stitch was removed, the wound gaped immensely, sloughs came away, healthy suppuration was established and granulations appeared, and the wound promptly closed.

Convalescence was uninterrupted from this time; his temperature never again reached 100°, and he has enjoyed perfect health until the present time. The drain was removed piecemeal; the last portion not until sixteen days after operation.

In the following case the result was less fortunate:

On the 13th of last January, I was called in consultation to visit a child 9 years of age. It seemed that she had suffered from backache, and frequent attacks of pain in the abdomen. She attended school until just before Christmas, she then had a severe colicky attack, but subsequent to this was apparently quite well, and on December 31, was on her sled for several hours. On January 6th she was seized with sick stomach, abdominal pain, and had high fever; after this she was so much better that she was down stairs, and ate of sausage and rolls; soon after she was seized with violent abdominal cramps, the right iliac region being exceedingly painful. January 12, she had an attack of pain which was most excruciating in character. The following day when I first saw her, the condition was wretched, almost a collapse; but not to such an extent as to justify denial of her only chance of life, as I had diagnosticated peritonitis originating in a perforated appendix and advised operation. Upon making a lateral incision, as soon as the peritoneum was opened a great flow of putrid pus took place, then the cæcum and appendix came into view; the latter was greatly swollen, and the cæcum and appendix were covered with greenish-yellow pyogenic membrane and lymph. The end of the appendix had sloughed off, and was gangreneous for some distance; one foreign body was found in the abscess cavity, another was partly held in the sloughing end of the organ, and two other concretions were in the canal near the cæcum. The appendix was ligated at its base and exsected; the whole abdominal cavity and its intestinal contents which were in a state of purulent inflammation were thoroughly inundated with hot water; a tube was carried into the pelvis, and the wound was closed and dressed in the usual manner; the child never reacted fully, but died seven hours afterwards.

We may provisionally classify these cases of appendicular disease according to the pathological conditions which each case illustrates:

First, those cases where the appendix and its surroundings become encysted by deposit of lymph, so that a cavity more or less complete is formed, into which the contents of the appendix are received when perforation occurs, while the walls of the cavity afford possibly, a complete partition which separates it from the peritoneal cavity. These cases are likely to be chronic in their course.

Secondly, those cases where an insufficient limiting lymph partition wall has been formed, and where the general peritoneum promptly becomes involved. Thirdly, where appendicular ulceration and perforation has been so rapid that sufficient lymph for the production of a partition wall has not been thrown out. This group furnishes the acute cases.

SYMPTOMS.

The earliest symptoms of appendix inflammation or irritation are commonly pain in or about the cæcal region, which is often paroxysmal in character. The pain is increased by pressure. There is nausea and vomiting. Constipation is commonly present. The urine is frequently scanty, or it may be nearly suppressed.

These symptoms may sooner or later disappear with apparently full convalescence. A relapse or recurrence of symptoms demonstrates that an irritation still remains. The attacks recur at variable periods, and perhaps with graver symptoms, or during any such attack the sudden advent of violent local and constitutional symptoms definitely announces the occurrence of perforation of the appendix.

If perforation occurs after many such recurring attacks, the pericæcal inflammation has usually been sufficient to secure a protecting medium between the diseased tissues and the general peritoneum; and when perforation occurs, there is less danger of peritoneal involvement. As suppuration increases, a tumor is formed, which may work its way forward to the surface in its course gradually infiltrating the abdominal muscles and dissecting the tissues before it. At this period there is usually considerable œdema, and as the abscess approaches the surface, the skin becomes red and discolored. Occasionally, however, the pus does not take such a favorable course, but may point in the bladder, bowel, hip-joint or other unusual position. The presence of pus close to the peritoneum is always attended by very marked, sometimes profound depression of the vital powers. The patient experiences chilly sensations, if not actual rigors. The temperature is elevated. At the same time there is more or less general sweating. Later on, a fullness may be felt about the ileo-cæcal region; but until a circumscribed pus tumor has formed, the ileo-cæcal region continues to be resonant, indeed, it is often unusually tympanitic, so that before the pus tumor can be felt, the presence of suppuration in this locality must be determined by the history of the case, and the same general rules by which pus is recognized in other localities.

It is probable that in many instances, attacks of colic, so-called, are simply contractions of the appendix incident to nature's efforts to expel foreign bodies from this organ. To show how common it is for the appendix to harbor foreign bodies, I may state that in thirteen consecutive post-mortems made recently at the Pennsylvania Hospital, in persons who had died from other than intestinal disease, the appendix in every instance but one contained fæcal concretions. In a number the foreign bodies were quite soft; others were firm, while others were gritty in character. In several cases, the appendix was blocked up by foreign bodies for an inch or more. No doubt such material may become imprisoned, and if not dislodged and thrown into the intestine, may excite appendicitis, ulceration and perforation. Indeed, that such is the usual history, is now well recognized.

Actual perforation of the appendix is generally ushered in by intense excruciating, agonizing pain, which is somewhat relieved by the occurrence of the accident.

Twice I have known instances where two children in the same family perished from perforation of the appendix; this experience may simply be a coincidence, but it would seem possible that stenosis of the outlet of this organ may prove to be occasionally a hereditary condition.

TREATMENT.

For practical purposes, the treatment of pericæcal inflammation must be divided into two subdivisions; that of the pre-purulent and that of the post purulent or suppurative stage; or first, before the formation of pus, or of appendix perforation, and second after that event.

The treatment of the pre-purulent, irritative or simply inflammatory disorders of the cæcum and its surroundings, should consist of rest in bed, restriction of diet to nourishing liquids, hot poultices or fomentations frequently replaced upon the parts, perhaps local depletion, and the hypodermic exhibition of morphia to control pain. The bowels should be kept open and free from the accumulation of gas or fæces by the administration of saline laxatives and enemas; perhaps with the addition of turpentine to the latter.

Pain of intense character, would often be as much an indication for operative relief as for morphia.

Prompt resolution should take place in cases which are not to go on to the stage of pus formation, and very long continuation of symptoms or relapses or recurrences would be strong indications for surgical interference.

The presence of such tedious recovery, relapse or recurrence, would point to the probable presence of conditions exceedingly dangerous to the patient, from liability to general peritonitis or perforation at any time. They would further point, as a rule, to the appendix as the source of irritation and danger; indeed, in man, that worse than useless appendage must be regarded as the root of most evil in the region under consideration.

Where the process has reached the suppurative stage, and this condition has been recognized, the course to be pursued is, indeed, very plain. Even a small amount of pus lying near the peritoneum is vastly more of a risk than an abdominal section performed for its removal. Hence, I should operate whenever the diagnosis of pus has been made, occasionally even without positive diagnosis—indeed, without qualification, I repeat, that pus being present in the region of the cæcum, operation is positively indicated.

Many other risks are to be taken rather than those of purulent peritonitis, for early interference will save most, if not nearly all, cases from this latter dread complication; while the danger of operation becomes slight compared to that of rampant abdominal inflammation.

Local or general peritonitis supervening in a person who has a history of cæcal trouble or starting during a first attack would more than justify operation.

At a later stage of the disorder, all available diagnostic skill must be exerted to detect a pericæcal abscess, should it point in an anomalous situation We must ever, however, bear in mind the surgical rule always to attack pus at its source if possible. When the cæcum is normally placed, this is always feasible if the disease be recognized.

THE OPERATION.

On account of the nature of the case, there is little time for special preparatory treatment for the operation. The surroundings of the patient should correspond with the usual requirement for abdominal operations. Asepsis should be rigidly observed in every particular.

The aspirating or exploring needle should never be used for diagnostic purposes; for if it does not find pus, we cannot be sure that none is present, while its own dangers are not inconsiderable. In these cases it is a dangerous and especially unsafe diagnostic resource.

Having the patient supine and extended, the field of operation is to be thoroughly cleansed, shaved, and washed with a bi-chloride solution 1:1000 and finally with ether. Towels wrung out of the mercuric solution are placed to protect the field of operation.

The line of abdominal incision should be slightly oblique or vertical, not median but lateral.

The advantages of the lateral incision are very obvious and positive. If median, the peritoneal cavity would often be opened needlessly, and at a point far remote from the cæcum and appendix, and in a position in which the cæcum and appendix cannot well be reached or dealt with. The lateral incision can be made of less size and directly over the appendix and abscess cavity. Moreover, in this situation, small circumscribed or secondary abscesses in the abdominal wall, which are sometimes come upon, can be evacuated before the peritoneum is reached, and at its base all necessary manipulations can be made in many cases without opening the general peritoneal cavity at all; while, should the suppuration have extended in this direction, the intestines can just as well be examined and cleansed through a lateral as through a median incision. Should there be subsequent sloughing of tissue, as frequently occurs, the sloughs can be far more readily discharged through an opening immediately over the locality of the disease than if it were situated elsewhere; while drainage can be much more thoroughly accomplished by a lateral incision. The length of the incision depends upon the conditions found after the abscess cavity is reached: an incision three or four inches in length will often be sufficient for the removal of the appendix; but in case there is a large abscess cavity it can be increased to any desired extent.

The favored or lateral incision should began at a point about an inch above the middle of Poupart's ligament and to the outer side of the right linea semilunaris, to be continued from this point upwards in a vertical direction, or outward and upward, and carried down until pus, cæcum or peritoneum shall be reached. From numerous dissections, made with a view to determine the ordinary position of the appendix vermiformis, I have found that this organ is normally placed immediately under a point two inches distant from the right anterior superior iliac spinous process, on a horizontal line drawn from this process towards the median line of the body.

When the abscess cavity is reached, gas is usually first discharged. The wound can then be enlarged if necessary, in order to fully expose the cavity underneath. Irrigation with boiled water at a temperature of 105° or 110°, and careful sponging, now permits a clear view to be had of the surroundings of the cæcum, and its appendix. The latter is usually found to be the seat of trouble. It would be well to excise it in any case, whilst we have the chance; for any cæcal trouble would be likely, in time, to excite disorder in its appendage. Without a doubt it should be so treated, if found inflamed, perforated or harboring foreign bodies. This can best be ac complished by ligating it as close as possible to its cæcal attachment with a strong silk thread, and then cutting it off beyond the ligature. Cæcal perforations if found, should be cleaned and curetted, and then closed by Lembert's suture; even ulcers which have not perforated might by the same means be turned into the bowel lumen. If the general peritoneal cavity has not been involved the walls of the abscess should be gently curetted, washed with a mercuric solution 1:1000, and a large drain carried to the bottom of the wound and brought out at its most dependent part. The external wound should, with the exception of a suture or two, be left thoroughly open, and lightly filled with an antiseptic dressing. A rope of absorbent cotton should be placed in the glass tube, a large mass of cotton should cover the abdominal and wound surface. A four tailed flannel bandage completes the dressing.

The question of using Lembert's suture after amputating appendix, as has been suggested, is of no practical importance. The constricted or tied portion which is very close to the cæcum must close by granulation; indeed, the situation is very similar to that existing when Fallopian tubes are ligatured and removed for suppurative salpingitis. No one would think of using a Lembert suture in such a case. Moreover, I have found it impossible to employ such sutures after appendix excision; because the tissues being œdematous, infiltrated and friable, will not permit it. The attempt to approximate them only causes the threads to tear through. Cæcal perforations are different. As already said, the attempt should be made to close such with Lembert's suture if possible; but even here the gut can be lifted up by tenacula and perforation obliterated by a silk ligature.

If the general peritoneum has become involved, the whole abdominal cavity must be thoroughly washed out with hot distilled water, temperature 105° to 110° F., or bichloride of mercury solution 1:10,000. The intestines should be cleansed with sponges and the foreign body, if that has been the source of the perforation, searched for. Should peritonitis be far advanced, the intestines must be withdrawn and all adhesions parted with a finger or a knife. During the process of cleansing, and before they are returned to the peritoneal cavity, they should be thoroughly protected with towels wrung out of hot water. In all cases of general peritonitis a glass drainage tube must be carried to the bottom of the pelvis and kept in working order by means of ropes of absorbent cotton which act by capillarity. In some cases it may be well to use a second tube of rubber for the more superficial or pericæcal cavity; but if the wound is treated by the open method, this second tube can be dispensed with.

Should the cause of the morbid process be impaction of fæces or a foreign body in the cæcum itself, they must either be excised, or urged by prudent force along the bowel. In their operative removal a simple incision, afterwards brought together by Lembert sutures, would answer every purpose. If portions of the cæcum have sloughed and the breaches of continuity are too large to approximate with Lembert sutures without producing dangerous constriction of the gut we must be content with the formation of an artificial anus. Recent experience in cases of appendix abscess has led me to the above conclusion that the abdominal wound should never be closed, except perhaps in the simplest cases, where no pyogenic membrane exists. Where there is any degree of suppuration, sloughing or pyogenic tissue, the abdominal wound is certainly best treated by the open method. By this I mean that, with the exception of one or two points of suture, or perhaps no sutures at all, the wound is allowed to remain open, so as to favor granulation from the bottom of the cavity, and thus to afford free vent to pus and the results of destructive inflammation. Doubtless the cæcum will be exposed, but it will not protrude, and need not lead us to anticipate the slightest difficulty. This portion of the bowel is in a comparatively fixed position and will always afford a barrier to the protrusion of the small intestines. After the wound has granulated to the surface if there is any disposition in it to gape it can be readily approximated and held in position by strips of rubber plaster. The same general principles of treatment will hold even for those rare cases of displacement of the cæcum as into scrotal and other hernia, its abdominal transposition, etc. The important question in these cases will be the diagnosis.

It can properly be said that there is no fixed rule for the time of operation in cases of abscess of the ileo-cæcal region. All I can say in summing up the subject is that when symptoms strongly suggestive of the presence of pus are seen, it is far safer to operate at once than to wait. Procrastination in such cases really means even more than surgical uncertainty. This uncertainty can be set aside only by an exploratory incision. Delay is productive of the gravest consequences to the patient, the prognosis growing worse every hour that the operation is postponed.

AFTER TREATMENT.

Immediately after the operation a hypodermic injection of morphia may be required to relieve pain or check vomiting or restlessness. The ordinary rules of abdominal surgery are observed. The cot ton rope should be changed in the tube every few hours. Before it is replaced the tube should be irrigated with a weak carbolic acid or other antiseptic, especially where, as is often the case, the secretions are offensive in character. If the wound is left open there will generally be no need of a second or superficial drainage tube, as the discharges will be at once

absorbed into the superimposed dressings. The time for the removal of the glass drain from the pelvis will depend altogether upon the subsidence and character of the secretion. Frequently the tube is gradually forced out by the action of the intestines themselves and at the proper time. The abscess cavity should be treated exactly as such foul abscess cavities would be treated in any other part of the body. The closure of such a putrefying tract would only add to the danger of the patient without a single compensating advantage.

The bowels should be kept in a soluble condition by salines; threatened peritonitis should be met by active purgation by salines; milk should be given in small doses and at short intervals, and stimulants are generally required. Where there has been much exhaustion and considerable suppuration champagne should be admimistered *ad libitum*.

Typhoid or tubercular cæcal, or appendicular inflammation or perforation likewise should receive identical treatment as for the simple inflammatory disorders of that region. This whole subject is still in its infancy, so far as the majority of the profession are concerned, but it is of almost boundless promise.

REPORT ON INTUBATION.

Read in Section on Diseases of Children, at the Thirty-ninth Annual Meeting of the American Medical Association, May 10, 1888.

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PROFESSOR OF OTOLOGY, LARYNGOLOGY AND RHINOLOGY, COLLEGE OF PHYSICIANS AND SURGEONS, OF CHICAGO. CLINICAL PROFESSOR RHINOLOGY AND LARYNGOLOGY CHICAGO OPHTHALMIC COLLEGE.

Intubation of the larynx while not perhaps fulfilling the expectations of some has, nevertheless, within the past year gradually grown in favor and more extended experience has proven the full value of this procedure. An occasional physician has met with such signal failure as to disparage the operation and to abandon it. The same however may be said of tracheotomy, and it is no argument against the operation.

As the full value of an operation can be determined only by a careful investigation of the results in quite a number of cases, I here present a record of my first 150 operations,[1] and although this number is not large it is sufficient to fairly demonstrate that intubation of the larynx possesses nearly, if not quite all the advantages claimed for it. In none of the following cases has the operation been performed until severe and increasing dyspnœa has demanded surgical interference. In a few instances where I have been called in consultation I have declined to operate believing that the patients would recover without it. Frequently I have delayed operating during my first visit but being subsequently called found it necessary to do so in order to further prolong the life of the patient. In the great majority of cases I was called in consultation with other physicians and the operations performed as a last resort, after all other modes of treatment (excepting tracheotomy) had been found useless and the patients practically given up to die.

[1] See pages 740, 741.

In the New York *Medical Record*, of Oct. 29, 1887, Dr. O'Dwyer reports 50 cases, with 12 recoveries, and in the *New York Medical Journal*, of Jan. 14, 1888, an additional 50, with 15 recoveries, making a total of 100 cases, with 27 recoveries, or 27 per cent.

I have within the past year collected, by inquiry and by letter, as well as from published reports, records of 1072 operations performed in various parts of the United States, with 287 recoveries, or 26.77 per cent. In 661 cases the ages were given and were as follows:

No. of Cases.	Age.	Recoveries.	Percentage.
31	Under 1 yr.	5	16.12
97	1 year.	15	15.46
149	2 years.	29	19.46
140	3 "	42	30.00
98	4 "	32	32.65
56	5 "	19	33.92
27	6 "	10	37.03
32	7 "	16	50.00
12	8 "	5	41.66
10	9 "	5	50.00
2	10 "	1	50.00
5	11 "	2	40.00
2	14 "	0	00.00
Total, 661		181	27.38

The most unpleasant feature of intubation has been the inability of the patient to swallow liquids. Solids and semisolids frequently have not been relished or properly digested, and the craving for water has often been so great that parents have sometimes regretted the operation and have blamed the physician for prolonging life and adding an additional cause of suffering. It is undoubtedly true that the falling of fluids and solids through the tube and into the bronchi is frequently the cause of broncho-pneumonia. I have long been at work endeavoring to devise some means of covering the upper opening of the tube during deglutition, and thus overcoming this objectionable feature of intubation. The first device for this purpose was the rubber epiglottis exhibited to this Society one year ago. While this arrangement was satisfactory in many cases yet in others it would often fail on account of becoming disarranged during the introduction of the tube or later from coughing. After much thought and many experiments a metal epiglottis was devised as a substitute. This metal epiglottis is controlled by a spring of gold wire inclosed in the hinge at the upper end of the tube. As the patient swallows, the metal cap is pressed down over the opening of the tube and solids and fluids are prevented from passing into it. To prevent sudden suffocation in case any accident should occur to the spring, a slot is made in each side of the head of the tube and near the rim. I have used this device with great satisfaction, and the ability to swallow liquids is particularly noticeable in the older children. They

Case.	Age.	Date.	In Consultation with—	Termination.	Cause of Death.	Length of time tube was worn.	Time d'th occurred after operation.	Diphtheritic Symptoms.	Membrane.
1	2 yrs, 1 mo.	Apr. 19, 1885.	In my own practice...	Fatal	Extension of membrane to bronchi.	24 hours..	36 hours..	Mild.....	Present in larynx.
2	3 years.	Apr. 23, "	In my own practice...	"	Extension of membrane to bronchi.	30 hours..	36 " ..	"	" " "
3	16 months.	July 16, "	Drs. Hatfield & Casselberry.	"	Extension of mem. and exhaustion,	24 hours..	26 " ..	Severe.....	" " phar. and lar.
4	5 years.	Sept. 15, "	Dr. Behrend.....	Recovery.	.....	6 days....	.....	Mild.....	" " larynx.
5	2 yrs. 7 mos.	Sept. 24, "	Dr. Richardson.....	Fatal	Pneumonia.....	6 days...	6 days..	Severe.....	In phar., lar. and trachea.
6	20 months.	Nov. 3, "	Drs. Appleby & Dahlberg.	Recovery	.....	4 days...	.....	Mild.....	In larynx.
7	4 years.	Nov. 9, "	Drs. Bosworth and Nelson.	Fatal	Exhaustion.....	48 hours..	48 hours..	Malignant....	In pharynx and larynx.
8	3 years.	Nov. 16, "	Dr. Kossakoski.....	"	Extension of mem.	30 hours..	30 " ..	Mild.....	" " "
9	2 yrs. 2 mos.	Nov. 13, "	Dr. Kossakoski....	Recovery.	.....	14 days ..	.....	"	" " "
10	5 years.	Nov. 20, "	Drs. Hatfield & Casselberry.....	Fatal.....	Pneumonia.....	50 hours..	50 hours..	"	" " "
11	5 years.	Nov. 21, "	Dr. Valin.....	Recovery.	.....	5 days....	.....	"	" " "
12	5 years.	Dec. 2, "	Drs. Caldwell and Ogden.	"	.....	4 days....	.....	Severe, following measles	" " "
13	3 years.	Nov. 30, "	Dr. Holroyd.....	Fatal.....	Extension of membrane to bronchi.	36 hours..	36 hours..	Severe.....	" " "
14	4 years.	Dec. 3, "	Dr. Dahlberg.....	Recovery.	.....	4 days	.....	Mild.....	" " "
15	4 years.	Dec. 9, "	In my own practice...	"	.....	3 days....	.....	"	" " "
16	3 years.	Dec. 11, "	Dr. Pierpont, of Englewood.	Fatal,....	Pneumonia.....	48 hours..	48 hours..	Severe.....	In nares, phar. and larynx.
17	4 yrs. 9 mos.	Jan. 4, 1886.	Drs. Quine & Willard	Recovery.	.....	3 days....	.....	Absent.....	In larynx.
18	3 years.	Jan. 9, "	Dr. Miller, of Kensington.	Fatal	Exhaustion	24 hours..	24 hours..	Severe	In pharynx and larynx.
19	2 years.	Jan. 12, "	Dr. C. E. Caldwell...	"	Extension of membrane to bronchi.	24 hours..	24 " ..	"	" " "
20	4 years.	Jan. 13, "	Dr. C. E. Caldwell...	"	Pneumonia.....	36 hours..	36 " ..	"	" " "
21	7 years.	Jan. 22, "	Dr. C. Caldwell.....	"	Extension of membrane to bronchi	48 hours..	48 " ..	"	" " "
22	5 years.	Jan. 25, "	Dr. Dahlberg	"	Exhaustion.....	48 hours..	48 " ..	Mild.....	" " "
23	2 yrs. 2 mos.	Jan. 26, "	Dr. Dyas	"	Diphtherit. toxæmia	24 hours..	24 " ..	Malignant....	" " "
24	14 months.	Jan. 28, "	Dr. Berry,.....	"	Pneumonia.....	48 hours..	48 " ..	Severe	" " "
25	11 months.	Jan. 28, "	Dr. C. E. Caldwell...	"	Exhaustion.....	24 hours..	24 " ..	.....	In nares, phar. and lar.
26	13 months.	Feb. 6, "	In my own practice...	"	.....	24 hours..	24 " ..	Severe	In pharynx and larynx.
27	4 years.	March 1, "	Dr. Steele.....	"	Pneumonia.....	48 hours..	48 " ..	"	" " "
28	7 years.	March 5, "	Dr. McGinnis, of Brighton.	"	Extension to bronchi	60 hours..	60 " ..	"	" " "
29	2 years.	March 6, "	Dr. Hoadley.....	Recovery.	.....	7 days....	.....	Mild.....	" " "
30	8 years.	March 8, "	Drs. Kippax & Adams	Fatal	Extension to bronchi	48 hours..	72 hours..	Severe	" " "
31	2 years.	March 9, "	Dr. R. L. Rea.....	"	" "	24 hours..	24 " ..	"	" " "
32	2 years.	March 11, "	Dr. Behrend.....	"	Pneumonia.....	48 hours..	48 " ..	"	" " "
33	9 months.	March 13, "	In my own practice...	"	Exhaustion.....	72 hours..	88 " ..	"	" " "
34	17 months.	March 15, "	Dr. Wm. E. Hall.....	"	"	24 hours..	24 " ..	"	" " "
35	7 years.	March 25, "	Dr. Van Doozer.....	"	Suffocation from detachment of membrane after removal of tube.	24 hours..	24 " ..	Mild.....	" " "
36	3 years.	March 27, "	Dr. Chas. E. Caldwell	"	Extension of membrane to bronchi.	36 hours..	36 " ..	Severe	" " "
37	7 years.	March 29, "	Dr. McWilliams.....	Recovery	.....	86 hours..	.....	Mild.....	" " "
38	7 years.	March 31, "	Dr. Parsons.....	Fatal.....	Extension of membrane to bronchi.	72 hours..	72 hours..	"	" " "
39	2 years.	April 25, "	Drs. Fenger & Storck.	"	Extension to bronchi	48 hours..	48 " ..	"	" " "
40	7 years.	April 28, "	Dr. Lawless,.....	"	Suffocation after ejection of tube.	24 hours..	24 " ..	"	" " "
41	8 years.	April 29, "	Dr. Tillotson.....	Recovery	.....	2 days....	.....	Severe.....	" " "
42	3 years.	May 3, "	Dr. Berry.....	Fatal	Pneumonia.....	48 hours..	48 hours..	"	" " "
43	14 months.	May 5, "	Drs. Steele & Lawless	Recovery	.....	86 hours..	.....	"	" " "
44	2 years.	May 6, "	Dr. Clendenning.....	Fatal.....	Extension to bronchi	72 hours..	80 hours..	"	" " "
45	3 years.	May 10, "	Dr. D. Collins	Recovery	.....	5 days....	.....	" following scarlet fever.	" " "
46	3 years.	May 16, "	Dr. Tillotson.....	"	.....	6 days....	.....	Mild.....	" " "
47	14 months.	May 20, "	Dr. Tillotson.....	Fatal.....	Uremic convulsions.	48 hours..	48 hours..	Severe.....	" " "
48	.....	May 22, "	Drs. Johnson and Mannheimer.	"	Heart failure.....	24 hours..	24 " ..	"	In phar., lar. and bronchi.
49	5 years.	May 26, "	Dr. McDonald.....	"	Diphtherit. toxæmia	3 days...	5 days...	"	In pharynx and larynx.
50	3 years.	May 27, "	Drs. Johnson and Mannheimer.	"	Exhaustion.....	12 hours..	12 hours..	"	In nares, phar. and lar.
51	7 years.	June 5, "	Drs. J. H. Hollister and Goodall.	"	Heart failure.....	16 hours..	16 " ..	"	In pharynx and larynx.
52	2 years.	June 9, "	Dr. Clendenning.....	"	Exhaustion.....	12 days..	12 days & 12 hours.	Mild.....	" " "
53	4 years.	June 9, "	Drs. Bogue and Shepherd.	Recovery fr. croup.	Nephritis.....	4 days....	2 weeks..	Severe.....	" " "
54	10 months.	June 11, "	Dr. Burbank.....	Fatal	Exhaustion.....	24 hours..	24 hours..	"	" " "
55	8 years.	July 14, "	Dr. Thomas.....	Recovery.	.....	4 days....	.....	Mild.....	" " "
56	9 months.	July 28, "	Dr. J. V. Bacon.....	Fatal.....	Exhaustion.....	24 hours..	24 hours..	Severe.....	" " "
57	5 years.	Aug. 16, "	In my own practice...	"	Extension to bronchi	5 days...	5 days...	"	" " "
58	9 years.	Aug. 13, "	Dr. McDavitt, of Winona, Minn.	Recovery.	.....	12 hours..	.....	Absent.....	In larynx.
59	9 months.	Sept. 2, "	Dr. Bates.....	"	.....	4 days....	.....	Well marked.	In pharynx and larynx.
60	4 years.	Sept. 12, "	Dr. Sternag e.....	Fatal.....	Extension to bronchi	3 " ...	3 days...	" "	" " "
61	4 years.	Sept. 27, "	Dr. Steele.....	Recovery.	.....	4 " ...	.....	" "	" " "
62	23 months.	Sept. 29, "	Dr. Steele	Fatal.....	Extension to bronchi	2 " ...	2 days...	" "	" " "
63	8 years.	Sept. 30, "	In my own practice...	Recovery.	.....	3 " ...	.....	" "	" " "
64	4 years.	Oct. 4, "	Dr. Tallman, So. Englewood.	Fatal	Pneumonia.....	3 " ...	3 days...	" "	" " "
65	2½ years.	Oct. 7, "	In my own practice...	"	Extension of memb.	3 " ...	3 " ..	" "	" " "
66	2 years.	Oct. 10, "	Drs. Emrick and Dal.	Recovery	.....	4 " ...	.....	" "	" " "
67	3 years.	Oct. 13, "	Dr. Barlow.....	Fatal.....	Extension to bronchi	8 hours..	8 hours..	Severe	In phar., lar. and bronchi.
68	2 yrs. 10 mos.	Oct. 18, "	Dr. J. G. Berry.....	Recovery.	.....	4 days....	.....	Well marked.	In pharynx and larynx.

Case.	Age.	Date.	In Consultation with—	Termination.	Cause of Death.	Length of time tube was worn.	Time d'th occurred after operation.	Diphtheritic Symptoms.	Membrane.
69	7 years.	Oct. 20, 1886.	Dr. Tallman.....	Fatal....	Pneumonia.....	4 days ...	4 days...	Well marked.	In pharynx and larynx.
70	3 years.	Oct. 21, "	.....	"	Extension to bronchi	24 hours..	24 hours..	" "	In phar., lar. and bronchi.
71	2 yrs. 10 mos.	Oct. 21, "	Drs. Steele & Riley..	"	Convulsions.....	24 " ..	24 " ..	" "	In pharynx and larynx ...
72	2 yrs. 3 mos.	Oct. 31, "	Dr. Berry.....	"	Extension to bronchi	36 " ..	36 " ..	" "	" " "
73	3 years.	Nov. 6, "	Drs. Olliver & Kaufman.	"	Pneumonia.....	36 " ..	36 " ..	" "	" " "
74	13 months.	Nov. 11, "	Dr. C. W. Earle.....	"	Exhaustion.....	12 " ..	12 " ..	Severe.....	" " "
75	10 years.	Nov. 13, "	Drs. Webb & Lackner	"	Heart failure.....	24 " ..	24 " ..	"	" " "
76	3 years.	Nov. 13, "	Dr. Behrend.....	"	Broncho-pneumonia	3 days....	3 days...	"	" " "
77	6 years.	Nov. 17, "	Dr. Lackner.....	"	Extension of membane to bronchi.	2 " ..	2 " ..	"	" " "
78	6 years.	Nov. 19, "	Dr. Roy, of Auburn..	"	Extension of membrane to bronchi.	2 " ..	2 days...	"	" " "
79	4 years.	Nov. 24, "	Drs. Bates and Mulfinger.....	Recovery.	.....	3 " ..	.....	Well marked.	" " "
80	3 years.	Nov. 29, "	Dr. Abel.....	Fatal....	Extension to bronchi	2 " ..	2 days...	Severe.....	" " "
81	18 months.	Dec. 1, "	Dr. Barlow.....	"	" " "	24 hours..	24 hours..	"	In nares, phar. and lar.
82	6 years.	Dec. 1, "	Dr. Bert.....	"	Exhaustion.....	24 " ..	24 " ..	Malignant...	In pharynx and larynx.
83	4 years.	Dec. 2, "	.....	"	Broncho-pneumonia	2 days....	2 days...	Severe.....	" " "
84	4 years.	Dec. 9, "	Dr. C. F. Caldwell...	"	Pneumonia.....	2 " ..	2 " ..	"	" " "
85	2½ years.	Dec. 20, "	Dr. J. G. Berry.....	"	Extension of membrane to bronchi.	2 " ..	2 " ..	"	" " "
86	4 years.	Dec. 22, "	Dr. Larkin, S. Chicago	"	" " "	2 " ..	2 " ..	"	" " "
87	4 years.	Dec. 29, "	Dr. J. G. Berry.....	Recovery.	.....	7 hours.*	.....	Well marked.	" " "
88	6 years.	Jan. 2, 1887.	Dr. Banga.....	"	.....	4 days....	.....	" "	" " "
89	2 years.	Jan. 17, "	In my own practice...	Fatal....	Extension to bronchi	24 hours..	24 hours..	Severe.....	" " "
90	7 years.	Jan. 20, "	Dr. Burr.....	Recovery.	.....	3 days....	.....	Well marked.	" " "
91	18 months.	Jan. 20, "	Dr. J. G. Berry.....	Fatal....	Extension to bronchi	2 " ..	2 days...	Severe.....	" " "
92	2 years.	Jan. 27, "	.....	"	Extension of membrane to bronchi.	3 " ..	3 " ..	"	" " "
93	6 years.	Feb. 4, "	Drs. Mitchell & Gatchell.	Recovery.	.....	3 " ..	.....	Absent.....	In larynx.
94	2 years.	Feb. 7, "	Dr. Quine.....	Fatal....	Broncho-pneumonia	26 hours..	28 hours..	Severe.....	In pharynx " "
95	4 years.	Feb. 22, "	Dr. McDonald.....	"	Diphtherit. toxæmia	4 days....	4 days...	"	" " "
96	5 years.	Feb. 25, "	Dr. Murdock.....	Recovery	.....	4 " ..	.....	"	" " "
97	2 years.	Feb. 26, "	Dr. McDonald.....	Fatal....	Exhaustion.....	24 hours..	24 hours..	"	" " "
98	2 years.	March 1, "	.....	"	Extension of membrane to bronchi.	2 days....	2 days...	"	" " "
99	2½ years.	Mar. 19, "	Dr. Burry.....	"	" " "	2 " ..	2 " ..	"	" " "
100	3 years.	April 13, "	.....	"	" " "	2 " ..	2 " ..	"	" " "
101	12 years.	April 19, "	Dr. Leavitt.....	"	Diphtherit. toxæmia	3 " ..	3 " ..	Very severe..	" " "
102	3 years.	April 30, "	In my own practice...	"	Extension of membrane to bronchi.	2 " ..	2 " ..	Severe.....	" " "
103	3 years.	May 10, "	Dr. Kauffman, of Blue Island.	"	" " "	3 " ..	3 " ..	"	" " "
104	4 years.	May 11, "	In my own practice...	"	" " "	3 " ..	3 " ..	"	" " "
105	3 years.	May 24, "	Dr. Bert.....	"	" " "	3 " ..	3 " ..	"	" " "
106	9 years.	June 7, "	Dr. Leavitt.....	Recovery.	.....	4 " ..	.....	"	" " "
107	4 years.	June 21, "	Dr. Marr.....	Fatal....	Exhaustion.....	4 " ..	4 days...	"	" " "
108	14 years.	June 21, "	Dr. Keeler.....	"	"	20 hours..	20 hours..	Very severe..	" " "
109	18 months.	July 14, "	Dr. E. M. Hale	Recovery.	.....	4 days....	.....	Severe.....	" " "
110	4 years.	July 14, "	Dr. DeWolf, of Englewood.	Fatal....	Extension of membrane to bronchi.	2 " ..	2 days...	"	" " "
111	18 months.	July 31, "	.....	"	" " "	2 " ..	2 " ..	"	" " "
112	6 years.	Aug. 8, "	Dr. Le Barrier.....	"	Bronchial invasion..	12 hours..	12 hours..	"	In phar., lar. and bronchi.
113	2 years.	Aug. 11, "	Dr. Steurnagle.....	"	Exhaustion.....	24 " ..	24 " ..	"	In pharynx and larynx.
114	5 years.	Aug. 13, "	Dr. Kewley.....	"	Bronchial invasion .	2 days....	2 days...	"	" " "
115	3 years.	Aug. 22, "	Dr. Price.....	Recovery.	.....	4 " ..	.....	Very severe..	" " "
116	2 years.	Sept. 14, "	Dr. Burr.....	Fatal....	Extension of membrane to bronchi.	2 " ..	2 days...	Severe.....	" " "
117	4 years.	Sept. 16, "	Dr. Kossakosski.....	"	Detachm't of membrane below tube.	2 " ..	2 " ..	"	" " "
118	22 months.	Sept. 24, "	Drs. Jacobs & Steele.	Recovery.	.....	6 " ..	.....	Mild.....	" " "
119	4 years.	Sept. 21, "	Dr. J. G. Berry.....	"	.....	3 " ..	.....	Absent.....	In larynx.
120	6 years.	Sept. 25, "	Dr. Smith.....	Fatal....	Exhaustion.....	4 " ..	4 days...	Very severe..	In pharynx and larynx.
121	4 years.	Oct. 2, "	Dr. Holman.....	Recovery.	.....	3 " ..	.....	Severe.....	" " "
122	22 months.	Oct. 5, "	Dr. Holman.....	Fatal....	Extension of membrane to bronchi.	3 " ..	3 days...	"	" " "
123	9 years.	Oct. 7, "	Dr. Dyas.....	Recovery.	.....	5 " ..	.....	"	" " "
124	5 years.	Oct. 10, "	Dr. McCarthy.....	"	.....	4 " ..	.....	Absent.....	In larynx.
125	7 years.	Oct. 21, "	Dr. McCarthy.....	Fatal....	Exhaustion.....	36 hours..	36 hours..	Very severe..	In pharynx and larynx.
126	6½ years.	Oct. 21, "	Dr. Cook.....	"	Detachm't of membrane below tube.	6 " ..	6 " ..	Absent	In larynx.
127	6½ years.	Oct. 23, "	Dr. J. G. Berry.....	"	Exhaustion.....	4 days....	4 days...	Mild.....	In pharynx and larynx.
128	4 years.	Oct. 25, "	.....	"	Extension of membrane to bronchi.	3 " ..	4 " ..	Severe.....	" " "
129	4½ years.	Nov. 2, "	Dr. Casely.....	"	Exhaustion.....	3 " ..	3 " ..	Very severe..	" " "
130	3 years.	Nov. 7, "	Dr. Nelson.....	Recovery fr. croup.	Capillary bronchitis.	6 " ..	2 wks. aft. removal of tube.	Mild.....	" " "
131	2 years.	Nov. 24, "	Dr. Church.....	Fatal....	Extension of membrane to bronchi.	36 hours..	36 hours..	Severe.....	" " "
132	1 year.	Nov. 24, "	Dr. Dahlburg.....	"	Bronchial invasion.	6 days....	6 days...	Well marked.	" " "
133	4 years.	Dec. 4, "	Drs. Saunders and Mannheimer.	Recovery.	.....	3 " ..	.....	"	In phar., lar. and trachea.
134	2½ years.	Dec. 7, "	Drs. Steele and Babcock.	Fatal....	Extension of membrane to bronchi.	2 " ..	2 days...	Severe.....	In pharynx and larynx.
135	13 years.	Dec. 8, "	Dr. Merkle.....	"	Diphtherit. toxæmia	2 " ..	2 " ..	Very severe..	" " "
136	9 years.	Dec. 23, "	Dr. Riley.....	"	" " "	2 " ..	2 " ..	Malignant....	In phar., lar. and nares.
137	3 years.	Dec. 26, "	Dr. Thomas.....	"	Extension of membrane to bronchi.	2 " ..	2 " ..	Severe.....	In pharynx and larynx.
138	3 years.	Dec. 27, "	Drs. Gatchell & Mitchell.	"	" " "	3 " ..	3 " ..	Mild.....	" " "
139	2 years.	Dec. 28, "	Dr. Gfroerer.....	"	Capillary bronchitis.	24 hours..	24 hours..	Well marked.	" " "
140	10 years.	Dec. 31, "	Dr. Skyles.....	"	Diphtherit. toxæmia	24 " ..	24 " ..	Malignant....	" " "
141	3 years.	Jan. 1, 1888.	Dr. Jacques.....	"	Extension of membrane to bronchi.	3 days....	3 days...	Well marked.	" " "
142	6 years.	Jan. 3, "	Dr. Boas.....	"	Exhaustion.....	3 " ..	3 " ..	Malignant....	" " "
143	3 years.	Jan. 28, "	Dr. Dietrich.....	Recovery.	.....	3 " ..	.....	Well marked, with pertussis	" " "
144	4 years.	Feb. 9, "	Dr. Quine.....	Fatal....	Uræmia.....	3 " ..	3 days...	Severe, following scarlatina.	" " "
145	4 years.	Feb. 16, "	Dr. Parsons.....	Fatal....	Exhaustion.....	36 hours..	36 hours..	Malignant....	" " "
146	2 years.	Feb. 17, "	Dr. Roberts, Lemont.	Recovery.	.....	3 days....	.....	Absent.....	In larynx.
147	5 years.	Feb. 19, "	Dr. Kauffman.....	Fatal....	Extension of membrane to bronchi.	3 " ..	3 days...	Well marked.	In pharynx and larynx.
148	18 months.	Feb. 27, "	Drs. Rea & Roler....	"	Obstruction below tube.	3 " ..	3 " ..	"	" " "
149	5 years.	March 2, "	Dr. B. D. Foster.....	Recovery.	.....	6 " ..	.....	Severe.....	" " "
150	2 years.	March 5, "	Whitman & Holman..	Fatal....	Extension of membrane to bronchi.	24 hours..	24 hours..	"	" " "

* Patient ejected the tube with a piece of membrane, which did not re-form, and recovery quickly followed.

SUMMARY OF THE PRECEDING TABLE.

Total number of cases, 150.

Recoveries, 41.

Percentage of recoveries, 27.33.

Average age of all cases, 3 years, 11 months and 3 days. Average age of those recovering, 4 years, 3 mos. and 24 days. Average age of fatal cases, 3 years, 8 mos. and 7 days.

Since the above report the writer has had 9 cases with 3 recoveries, making a total of 159 cases with 44 recoveries, or 27.67 per cent.

will take an unlimited amount of fluid without difficulty, which they can not do with the open tube without the most violent coughing. With infants the difference is not noticeable in all cases, many however will swallow without any difficulty whatever.

In giving liquids it is better to give them from a spoon with the head inclined forwards.

It would naturally be inferred that this metal epiglottis projecting upwards and lying against the true epiglottis would cause greater irritation and more coughing than the open tube, but I have not observed this to be true. The following cases, only two out of many equally happy in termination, illustrate the advantages of this device.

March 2, 1888, I was called by Dr. B. D. Foster to perform intubation upon a little girl 5½ years old. She had been suffering from diphtheria for several days, when the larynx became involved. Both tonsils and uvula were covered with diphtheritic membrane, the urine was loaded with albumen, and the dyspnœa from laryngeal obstruction was intense. The loud stridor of croup was heard all over the house and the case seemed as hopeless as could have been well selected. A tube with the metal epiglottis was introduced giving prompt and entire relief to the difficult breathing. The child revived and took liquid nourishment without the least difficulty. It was a great comfort to be able to give this patient an abundance of water. Milk and brandy were taken freely, without which I am confident recovery would not have resulted, as the child was greatly prostrated. The case progressed favorably, although the urine continued to be loaded with albumen. Forty-eight hours after the operation she ejected the tube, together with a membranous cast. The patient improved somewhat and the respiration remained comfortable without the tube for three days, although on the second day she was taken suddenly with a choking spell and the parents thought she was about to die. After struggling for a few moments she ejected a large piece of false membrane, which gave her relief. The third day after the rejection of the tube the gradual return of the dyspnœa, due to reformation of membrane, necessitated its reintroduction. The dyspnœa at this time had become almost as intense as when the operation was first performed. The child again revived, and continued to improve for three days when the tube was removed. The albuminuria gradually disappeared and the patient made a perfect recovery.

April 13, 1888, I was again called by Dr. Foster, to operate upon a boy 3½ years old. The patient had been sick about one week with diphtheria of a mild type when the larynx became invaded and the usual symptoms of croup followed. At the time of the operation the symptoms were urgent. The pulse was rapid, the respiration rasping with the stridor heard both on inspiration and expiration. There was sinking in of the walls of the chest with every inspiration, and the patient was bathed in perspiration. As my two smallest tubes in the set were in use I was obliged to introduce a tube suitable for a much older child. The tube with a metal epiglottis was employed and the urgent symptoms were entirely relieved. On account of the large size of the tube fluids could not be taken without some coughing, but solids and semi-solids were swallowed without difficulty. One thirty-second of a grain of bichloride of mercury was given hourly, well diluted, and a steam atomizer constantly employed. The child did remarkably well for two days, when there was partial detachment of membrane below the tube and the respiration suddenly became greatly embarrassed. I was hastily summoned but found the child again breathing comfortably. There was, however, a peculiar, loose, hoarse cough, indicating false membrane below the tube. Fearing sudden suffocation, from detachment of a large mass of false membrane, the tube was removed, when the child, after coughing and strangling for a moment, expelled a large membranous cast of the trachea. As the respiration seemed comfortable without the tube it was not at once reintroduced. Twelve hours later however the membrane reformed and returning dyspnœa again rendered it necessary. A smaller tube was introduced and the patient instantly relieved. With this tube he was able to take liquids without the least difficulty, which rendered it possible to continue with the medicine. The comfort of the child was perfect for twelve hours, when the tube was ejected with a small piece of membrane. Urgent dyspnœa did not return for several hours, but finally, however, it became necessary to again introduce the tube, and when this was done the respiration ceased, the patient became blue and it was necessary to at once remove the tube. The trouble was obvious; membrane had been crowded down below the tube. As the tube was removed another membranous cast was expelled. The simple introduction and removal of the tube was sufficient to detach the membrane and to relieve the urgent dyspnœa. The patient now passed twelve hours without the tube very comfortably, when it again became necessary to introduce it. It was retained for twenty-four hours, during which time he took an abundance of nourishment and water without any annoyance. Indeed it was observed that he took more nourishment and with less difficulty with the tube than without it. The tube finally was expelled, together with another piece of membrane that had become detached below it. The patient now passed eighteen hours without the tube. While the respiration was more or less embarrassed during this time, yet it was hardly sufficient to call for interference until the expiration of this time, when dangerous dyspnœa returned. The tube was again introduced and worn with the same comfort for one night when it was again expelled with a small

patch of membrane. The cough now became loose and considerable membrane was expectorated in small pieces and in the form of muco pus. The dyspnœa did not return and the boy made an excellent recovery.

I have just received a letter from Dr. O'Dwyer, in which he says:

"I received the tubes with artificial epiglottis which I have used in one case at the asylum, and the result as far as swallowing was concerned, was most satisfactory. In fact I never saw a child with the ordinary, unprotected tube swallow anything like as well. The old nurses, who are so thoroughly familiar with this subject, uniformly agreed upon this point. There is no doubt but that this artificial epiglottis will be an immense improvement in the operation."

The metal epiglottis which renders it possible for patients to swallow liquids will, I am convinced, increase the popularity of the operation and enable us to save a larger proportion of patients.

70 Monroe Street.

THE INFANT-FOOD PROBLEM.

Read in the Section on Diseases of Children, at the Thirty-Ninth Annual Meeting of the American Medical Association, May 10, 1888.

BY WM. B. ATKINSON, A.M., M.D.,

PROFESSOR OF DISEASES OF CHILDREN AND SANITARY SCIENCE IN THE MEDICO-CHIRURGICAL COLLEGE, PHILADELPHIA.

To the general practitioner everywhere, there constantly comes the question, What means shall be employed to prevent the terrible mortality among infants deprived of their natural food, the mother's breast-milk? As it is in very many cases impossible to place the child outside the walls of a large city, this want of proper hygienic surroundings acts as one great factor in the production of disease. But perhaps the most active cause of disease is the exhaustion of the vital powers from the want of those articles which, being properly and readily assimilated, aid to maintain the body in its highest and healthiest condition. We all know that, other things being equal, that child which has been able to keep its system in the best state, its blood rich and pure, its muscles plump and firm, is sure to pass through an epidemic of children's affections either entirely unscathed or suffering only from a slight attack, readily throwing off the disease and never being troubled with the sequelæ.

Defective nutrition, then, is the predominant factor in the causation of the fearful mortality everywhere observed among children. We need only point to the statistics of children's hospitals, foundling asylums and similar institutions to show the truth of this proposition.

To us, as physicians and sanitarians, as citizens earnest for the welfare of this great Republic, this comes with powerful import. An additional fact also appeals to us when we learn that the vast majority of these are offspring of the native-born, while those who survive are largely the children of foreigners. This is shown by the valuable statistics of such investigators as Dr. Nathan Allen. Though we are compelled to admit that other causes, and one a very potent factor, produce the great disproportion between offspring of natives and foreigners, yet it must be admitted that the truth of our original proposition still is evident, that defective vitality causes a vast majority of deaths among infants, and even in children of larger growth.

The latter fact is constantly shown by the great mortality which prevails when, by reason of short crops or other causes, the people are unable to procure the food needed to maintain their systems up to par and thus resist the inroads of disease.

It goes without saying that the infant should be raised on its mother's milk whenever possible. When, for any cause, this fails, then comes the question, what shall be the substitute? Abroad the milk of asses and goats is in quite common use. Cow's milk, being that most easily obtained, is most largely employed in this country. This being the fact, we next come to the consideration as to how the two kinds of milk differ, and what is needed in order to cause that of the cow most nearly to approach that of the human being.

Cow's milk contains more proteid matter, more fat, more mineral matter and less sugar, and as a rule, in health human milk is alkaline, while cow's milk is often slightly acid. One special difficulty with cow's milk is that its casein is more or less likely to form an insoluble mass by contact with the gastric juice, while the casein of human milk is in part a peptone, and forms a very delicate coagulum when in contact with the gastric juice.

The effort is always to produce a food for infants closely resembling in its composition the mother's milk, and the nearer this is reached in all its details, the more surely will such food prove wholesome and valuable to the infant.

Our idea of a standard infant food, then, would be produced as follows: Be sure to obtain the milk of a healthy cow. Just here we may premise that we do not believe in the common fallacy, "one cow's milk." The mixture of the milk of several healthy cows is more sure to give an article of real value. Undoubtedly, many in this audience can substantiate the claim that it is most usually the pet cow, from which is obtained the milk which is put up for the sick baby, that receives all the banging, hurrying and pelting and, as we all know, is thus likely to yield a milk which may actually be poisonous in its nature. The best combination would be pure milk diluted with sufficient pure water to reduce the relative proportion of albuminoids and mineral constituents most nearly to that of human milk, then partially peptonize or digest it, and finally add a soluble carbo-hydrate with sufficient alkali to produce as close a resemblance to breast-milk as may be. We must not forget that peptonizing milk does not relieve us of the need of being sure that the milk is at the outset pure and fresh.

The milk supply of large cities has now become one of the great problems of the day. Churned in the cars to the city, then more thoroughly churned in the wagons over the wretchedly paved streets, distributed in many cases from doubtful cans by persons

of much more doubtful appearance as to their own cleanliness; the flavor often aided by the puffing of a cigar or filthy pipe on the part of the distributor, the article is received in many cases in a receptacle of equal doubt as to cleanliness, it is placed, perhaps, in a food chest or so-called refrigerator, exposed to the atmospheric contact of other articles of food. Is it to be wondered at that the milk becomes of a very doubtful form as to its propriety as an infant aliment?

To a certain extent, these objections are met by the new plan of delivering what is called "whole milk." The milk is very carefully placed in glass jars immediately after being drawn from the cow, these, being quite full, are hermetically sealed so that there can be no opportunity of churning or adulteration, or the absorption of odors or disease germs. For children who have passed the age of infancy, I have long been in the habit of urging the employment, particularly during hot weather, of what is called "evaporated milk." Its claims were that it was the milk from healthy, well-fed cows and, being of a density greater than cream, churning and souring were less likely to occur during its transition to the city. Again, it was very much less ready to absorb or appropriate the odors, etc., to which it might be subjected. I have found this more easily borne by the child, and repeatedly I have been compelled to substitute it for the "condensed milk," where a certain proportion of sugar is added in order to preserve the article.

For these reasons, Prof. Vaughan urges the use of dried milk solids, that is, they can be transported without injury from any distance and, if properly prepared, may be kept without putrefaction occurring. Now, if such pure milk from perfectly healthy cows were partially predigested by the process of peptonization with fresh pancreatine, the temperature sufficiently raised to destroy the ferment, then reduced to a powder by evaporation, and to this dextrine added, thus supplying the carbohydrate, we would then come as near the production of a proper food for infants as might be possible in the absence of the breast-milk.

By recent researches, we have been taught that dextrine is the best form of carbohydrate, as it is non-fermentable and does not irritate the stomach of the infant, is easily assimilated and, unlike cane sugar or maltose, is not likely to take on acid fermentation. Roasted wheat flour has long been employed and recommended as an article of food for infants, and particularly where diarrhœa is present. The reason of this is because this process converts the starch of the flour into dextrine.

The malt sugar or so-called "Liebig foods" are no doubt often valuable, particularly in infantile constipation, for their laxative effects, but are extremely liable to continue a diarrhœa or increase it. When these are used for their laxative effect, it is safer to use them alone rather than with milk, lest their fermentative tendency be aggravated by the presence of too great a quantity of albuminoid matter.

I am incited to this remark by the remembrance that the "Liebig foods" do not of themselves meet the requirements demanded for infantile nutrition, unless with the addition of cow's milk. By an examination of the analyses of such mixtures, we find that they add no essential to cow's milk; nor do these foods act chemically upon the casein, nor physically by reason of their solubility; and, as I have before remarked, they may give rise to disorders of digestion in consequence of the readiness with which they take on fermentation.

Farinaceous foods are of course out of the question, because of the absence of ptyalin in the secretion of the salivary glands in the earlier years of infancy. The addition of starchy matters to cow's milk with the purpose of rendering the coagulum less dense and more easily broken up in the stomach, as has been recommended by some authorities, is wrong in principle; it really adds an indigestible element, which cannot fail to act as a foreign body sure to produce fermentation, acidity, diarrhœa and the usual train of evils.

The milk foods, when diluted with water in accordance with directions, should correspond in nutritive value with human milk. Now, that this correspondence should be more nearly perfect, they should also be partially predigested or peptonized, in order that the casein may be rendered more acceptable. It is also necessary that sugar in some form should be added.

In peptonizing milk, it is of the greatest importance that the pancreatic extract which is employed should be pure and fresh. The odor of some digestive ferments as furnished by the stores is such as to give rise to the suspicion that they are already assuming the putrefactive tendency. In fact, it is a very difficult matter to preserve them, as it is well known that the products of the pancreas are much more readily decomposed than any known animal substance. Hence the greatest care will be necessary that there shall not be the slightest possibility of the presence of putrefactive germs in any of these articles that may be employed to aid in the preparation of the diet of infants. The peptonizing of milk, although apparently a very simple matter as practiced in the laboratory, yet is scarcely feasible in the household.

Another point is of great importance. Malt sugar is eminently prone to absorb moisture, and hence it should not be combined with dried milk and then put in bottles or other form of package for family use, because, as these packages are only partially used at one time, the balance is extremely liable to absorb moisture, resulting in fermentation, and this is more especially the case in hot weather or when kept in a hot room.

We cannot too strongly urge upon all who are compelled to prepare food for infants the great, the imperative necessity of using only water that has been boiled. To the medical man, the reason is plain, yet it would not be amiss for him to explain in each instance why this should be done. Just here it is equally important to see that the water is not cooled by the addition of ice, as we may thus return at once to the water the very organisms which the boiling was intended to expel. I am impelled to this remark by the remembrance of an inspection just made for the State Board of Health of Pennsylvania.

The subject of complaint was the ponds from which the ice was obtained to supply the demands of a large town. These ponds were filled with water from a stream really nothing but a drain for a full graveyard, one or more slaughter-houses, a large number of cesspools which were in constant use, and a large area of swamp land.

In diluting any form of infant food we should give positive, definite quantities. Undoubtedly all of us have encountered many instances where the child was really starving, while apparently receiving a large quantity of fluid. The fact is that the dilution had been carried too far.

It is unnecessary for me to occupy your time with further points as to times for feeding, nor of necessity for using bottles, etc.

Before closing, I may remark that, in my investigation of foods for the preparation of a paper which may be read elsewhere, I received from my friend Chief Medical Purveyor Baxter, of the United States Army, a tabulated analysis of some fifteen forms of foods. Of these, only four contained more than 10 per cent. of nutritive material, thus showing that even here we are likely to be deceived, and to be employing an article as useless for its proposed purpose as the too largely diluted food of the infant already mentioned.

In conclusion permit me to say that it has long been my custom, not only in my practice, but also in my teachings, to urge the giving of less medicine, using it only when imperatively demanded, and to insist upon the value of proper hygiene and proper nourishment, believing that these alone, in many cases, will at once place the child on the road to health, and if persevered in will, as a rule, maintain it there.

GASTROTOMY FOR REMOVAL OF FORK.

BY MAX E. WITTE, M.D.,
OF MT. PLEASANT, IOWA

Mrs. H. W., æt. 31, married, native of Ohio, was admitted to the Iowa Hospital for the Insane at Mt. Pleasant, July 3, 1885, suffering with acute mania. The first symptoms of disease were manifested June 20, 1885, by wild and irrational language and actions.

Since her admission to the Hospital, the maniacal condition has been continuous, and subject to little variation. Her habits have been irregular and disorderly, and at periods she has been decidedly excited and violent.

During the months of October and November, 1887, she had paroxysms of more than usual mental disturbance, during which it was evident that she suffered much pain; would cry out as if in great distress; walk about cramped, and bent forward and to the left. Her mental confusion was so great, however, that no satisfactory information regarding this distress could be obtained from her.

In the early part of December a tumor was detected in the abdominal cavity, to the left of the umbilicus and in a horizontal plane with it. It became daily more painful and caused the patient excruciating torture, which was fast exhausting her strength. By the middle of the month, the patient had become much emaciated and weakened, and was in a truly marasmic condition. The tumor could be plainly felt through abdominal walls, and was apparently the size of an orange. Its exact character could not be detected.

December 16, pain was even more severe than usual, and a hard pointed body could be felt connected with the tumor, and involving the abdominal walls. The diagnosis was made of a foreign body within the alimentary canal, and perforation of the intestinal walls.

Operation was at once determined upon, since the patient's life was in imminent peril. The writer operated with the efficient assistance of Dr. P. F. Straub, of the Hospital Staff, making an incision three inches long, parallel to the curve of the costal cartilage, on that side, and directly over the foreign body. The four prongs of a large table-fork were found projecting through the anterior walls of the stomach near the greater curvature, which had been dragged downward and to the left. The stomach was opened, and the fork liberated and removed. After thorough exploration of the stomach, and cleansing the edges of gastric opening, they were sutured to abdominal wound by means of deep stitches. This method was chosen since there were some adhesions of stomach to abdominal walls. Another set of more superficial sutures was then introduced to approximate the walls still more closely. Iron dyed silk and strongly curved needles were employed, and during the operation and subsequent dressings strict antiseptic precautions were observed. Patient rallied well from the effects of the operation. Her temperature at no time was above 100° F., nor her pulse over 86. She was free from pain, and slept well with chloral hydrate gr. xxx given nightly by enema.

A little ice was put in her mouth occasionally, but during a period of twelve days following the operation, food by mouth was entirely withheld. She was fed by nutrient enemata, consisting of beef peptonoids, pancreatic emulsions of milk and defibrinated blood.

After this period concentrated and nutritious food was given by mouth, and without causing any trouble. The healing of the operation wound was somewhat retarded by her having during the fourth night, eluded the vigilance of the nurse and turned in bed, thereby partially separating the edges of the wound. This accident was repaired by the freshening of the wound and the introduction of more sutures.

The wound healed throughout the greater extent by first intention, and without resulting fistula. Patient rapidly regained flesh and strength, and is now in usual physical health. Digestion is good, and she has no pain or tenderness anywhere about abdomen.

The fork is seven and one-half inches long, one inch wide across the prongs; is heavy; four pronged, and spoon handled. It is heavily plated with silver, but blackened by action of the gastric juice, where the plating had been chipped off. The fork was missed September 13, 1887, and patient at that time,

and subsequently, stated that she had swallowed it, but the idea seemed so absurd that no credence was given to her story. During more than three months, from September 13 to December 16, 1887, the fork had been in her stomach.

A CASE OF ACUTE RHEUMATISM IN AN INFANT ELEVEN DAYS OLD.

BY ALEX. GUTHRIE, M.D.,
OF CAIRO, ILL.

Inasmuch as this case in its etiological bearings is somewhat unique, I will give a moderately full report of the lying-in period of the mother.

Lillia K., æt. 18, primapara, was delivered of a healthy male child on March 11, 1888. On the 14th she was attacked with severe pain in the umbilical region, followed by a light chill and high fever. Was very restless all night and sent for medical aid the next afternoon. When I arrived the pain was moderately severe and paroxysmal; there was marked tenderness over upper two-thirds of abdomen, but very little over lower third. Temperature 102½°. Tongue furred. Breath offensive. One stool yesterday. Lochia normal.

℞

Hydrarg. chlorid. mite..... gr. 6
Morph. sulph..... gr. ⅗
M. Chart. No. 3.

S. One every two hours, to be followed in four hours by 1 oz. castor oil and gtt. x oil of turpentine; also hot fomentations to bowels.

This produced free catharsis and great relief.

On the evening of the 17th, I was again called, and found her suffering from acute rheumatism, involving both shoulders, left wrist and both knee-joints. Abdominal tenderness had disappeared. Lochia normal. ℞. Sodii salicylat. gr. x, every two hours. Also, quin. sulphat. gr. v, every four hours, and pulv. ipecac comp. *pro re nata*. Under this treatment she speedily obtained relief and was soon convalescent.

This much by way of its possible etiological bearings on her infant's attack.

During the night of March 21st, and all day on the 22d, her babe was restless, slightly feverish, and cried whenever it was handled. I supposed it to be colicky, and ordered a dose of castor oil, to be followed by gtt. iv doses of tinct. opii camphorat. as occasion required. Next morning the mother called my attention to its left wrist, which was much swollen, slightly red, and on the lightest handling or flexing of the joint the child would cry as if in pain. ℞. Salicylate sodium gr. ss every three hours, and inflamed joint to be wrapped up in a woolen cloth wrung out of a warm solution of bicarbonate of soda.

March 24.—Swelling has somewhat subsided in left wrist, but right knee and upper part of leg are swollen this A.M. To continue treatment.

25th.—Condition unchanged. Salicylate sodium is inefficient, and seems also to disagree with it. To be omitted.

℞.

Sodæ, bicarb..... ℈j
Potas. acetat..... ℈ss
Aquæ menth. pip..... ℥iij
M. S.—℥j every two hours, and continue camph. tinct. opium as occasion requires.

27th.—Swelling has almost disappeared from knee and leg, but wrist is still puffy.

28th.—Both wrists and hands are swollen this A.M. Child seems bright and moderately well nourished, and only suffers on handling the swollen joints. To continue treatment.

30th.—This A.M. the swelling has almost disappeared from the right wrist, and is much less at the left wrist-joint.

April 2d.—Has so far recovered that further visits are deemed unnecessary.

The hygienic surroundings were as unfavorable as possible. The house in which the mother was confined was cold and open, and the weather was cold and damp; her arrangements for fire were poor, as were also her food and attention. In addition to this, rheumatism was prevalent in the city. These facts, when taken together with the sudden appearance of the disease, the swollen, tender and painful joints, its migratory character, its yielding to alkalies, and the absence, so far as I could determine, of a syphilitic taint in the mother, seem to me to stamp the disease as acute rheumatism, notwithstanding the tender age of the infant.

Longstreth (On Rheumatism, Gout, and some Allied Disorders, page 22) says: "Only one case has been recorded under the age of one month." Henoch (Lectures on the Diseases of Children. Wm. Wood & Co. 1882. Page 311) reports a case at the age of ten months, which was also followed by hardness and contracture of the adductors of the thigh. Widerhofer observed the disease in a baby twenty-three days old, in the Foundling Hospital at Vienna—the only case of the kind that occurred among 70,000 children in eight years. Stäger met with it in a baby four weeks old. (See Ziemssen's Cyclopædia, Vol. XVI, pages 17 and 18.)

May 15, 1888.

MEDICAL PROGRESS.

EXPERIMENTAL INTESTINAL SURGERY.—At the conclusion of his very able paper, "An Experimental Contribution to Intestinal Surgery with Special Reference to the Treatment of Intestinal Obstruction," read at the Ninth International Medical Congress, DR. N. SENN draws the following conclusions:

1. Traumatic stenosis from partial enterectomy and longitudinal suturing of the wound becomes a source of danger from obstruction or perforation in all cases where the lumen of the bowel is reduced more than one-half in size.

2. Longitudinal suturing of wounds on the mesenteric side of the intestine should never be practiced, as such a procedure is invariably followed by gangrene and perforation by intercepting the vascular supply to the portion of bowel which corresponds to the mesenteric defect.

3. The immediate cause of gangrene in circular

constriction of a loop of intestine is due to obstruction of the venous circulation, and take places first in the majority of cases at a point most remote from the cause of the obstruction.

4. On the convex surface of the bowel a defect an inch in width, from injury or operation, can be closed by transverse suturing without causing obstruction by flexion. In such cases the stenosis is subsequently corrected by a compensating bulging, or dilatation of the mesenteric side of the bowel.

5. Closing a wound of such dimensions on the mesenteric side of the bowel by transverse suturing may give rise to intestinal obstruction by flexion, and to gangrene and perforation by seriously impairing the arterial supply to, and venous return from, the portion of bowel corresponding with the mesenteric defect.

6. Flexion caused by inflammatory and other extrinsic causes gives rise to intestinal obstruction only in case the functional capacity of the flexed portion of the bowel has been impaired or suspended by the causes which have produced the flexion, or, by subsequent pathological conditions which have occurred independently of the flexion.

7. As in flexion, a volvulus gives rise to symptoms of obstruction when the causes which have given rise to a rotation upon its axis of a loop of bowel, have at the same time produced an impairment or suspension of peristalsis in the portion of bowel which constitutes the volvulus, or when a diminution or suspension of peristalsis follows in consequence of the degree or extent of the rotation.

8. Accumulation of intestinal contents above the seat of invagination is one of the most important factors which prevents spontaneous reduction, and which determines gangrene of the intussusceptum and perforation of the bowel.

9. Spontaneous disinvagination is not more frequent in ascending than descending invagination.

10. The immediate or direct cause of gangrene of the intussusceptum is obstruction to the return of venous blood by constriction at the neck of the intussuscipiens.

11. Ileo-cæcal invagination, when recent, can frequently be reduced by distention of the colon and rectum with water, but this method of reduction must be practiced with the greatest caution and gentleness, as over-distention of the colon and rectum is productive of multiple longitudinal lacerations of the peritoneal coat, an accident which is followed by the gravest consequences.

12. The competency of the ileo-cæcal valve can only be overcome by over-distention of the cæcum, and is effected by a mechanical separation of the margins of the valve, consequently it is imprudent to attempt the treatment of intestinal obstruction beyond the ileo-cæcal region by injections per rectum.

13. Resection of more than six feet of the small intestine in dogs is uniformly fatal, the cause of death in such cases is always attributable to the immediate effects of the trauma.

14. Resection of more than four feet of the small intestine in dogs is incompatible with normal digestion, absorption and nutrition, and often results in death from marasmus.

15. In cases of extensive intestinal resection the remaining portion of the intestinal tract undergoes compensatory hypertrophy which macroscopically is apparent by thickening of the intestinal coats and increased vascularization.

16. Physiological exclusion of an extensive portion of the intestinal tract does not impair digestion, absorption and nutrition as seriously as the removal of a similar portion by resection.

17. Fæcal accumulation does not take place in the excluded portion of the intestinal canal.

18. The excluded portion of the bowel undergoes progressive atrophy.

19. A modification of Jobert's invagination suture by lining the intussusceptum with a thin flexible rubber ring, and the substitution of catgut for silk sutures is preferable to circular enterorrhaphy by the Czerny-Lembert suture.

20. The line of suturing, or neck of intussuscipiens, should be covered by a flap or graft of omentum in all cases of circular resection, as this procedure furnishes an additional protection against perforation.

21. In circular enterorrhaphy the continuity of the peritoneal surface of the ends of the bowel to be united should be procured where the mesentery is detached by uniting the peritoneum with a fine catgut suture before the bowel is sutured, as this modification of the ordinary method furnishes a better security against perforation on the mesenteric side.

22. In cases of complete division of an intestine, if it is deemed advisable not to resort to circular enterorrhaphy, one or both ends of the bowel should be closed by invagination to the depth of an inch, and three stitches of the continued suture embracing only the peritoneal and muscular coats.

23. The formation of a fistulous communication between the bowel above and below the seat of the obstruction should take the place of resection and circular enterorrhaphy in all cases where it is impossible or impracticable to remove the cause of obstruction, or, where after excision it would be impossible to restore the continuity of the intestinal canal by suturing, or where the pathological conditions which gave rise to the obstruction do not constitute an intrinsic source of danger.

24. The formation of an artificial anus in the treatment of intestinal obstruction should only be practiced in cases where continuity of the intestinal canal cannot be restored by making an intestinal anastomosis.

25. Gastro-enterostomy, jejuno-ileostomy and ileo-ileostomy should always be made by lateral apposition with partially or completely decalcified perforated bone plates.

26. In making an intestinal anastomosis for obstruction in the cæcum or colon, the communication above and below the seat of obstruction can be established by lateral apposition with perforated approximation plates, or by lateral implantation of the ileum into the colon or rectum.

27. An ileo-colostomy, or ileo-rectostomy by approximation with decalcified, perforated bone plates, or by lateral implantation should be done in all cases of irreducible ileo-cæcal invagination, where the

local signs do not indicate the existence of gangrene or impending perforation.

28. In all cases of impending gangrene or perforation, the invaginated portion should be excised, both ends of the bowel permanently closed, and the continuity of the intestinal canal restored by making an ileo-colostomy or ileo-rectostomy.

29. The restoration of the continuity of the intestinal canal by perforated approximation plates, or by lateral implantation, should be resorted to in all cases where circular enterorrhaphy is impossible on account of the difference in size of the lumina of the two ends of the bowel.

30. In cases of multiple gunshot wounds of the intestines involving the lateral or convex side of the bowel, the formation of intestinal anastomosis by perforated decalcified bone plates should be preferred to suturing, as this procedure is equally, if not more, safe, and requires less time.

31. Definitive healing of the intestinal wound is only initiated after the formation of a network of new vessels in the product of tissue proliferation from the approximated serous surfaces.

32. Under favorable circumstances quite firm adhesions are found within the peritoneal surfaces in six to twelve hours which effectually resist the pressure from within outward.

33. Scarification of the peritoneum at the seat of coaptation hastens the formation of adhesions and the definitive healing of the intestinal wound.

34. Omental grafts, from one to two inches in width, and sufficiently long to completely encircle the bowel, retain their vitality, become firmly adherent in from twelve to eighteen hours, and are freely supplied with blood-vessels in from eighteen to forty-eight hours.

35. Omental transplantation, or omental grafting, should be done in every circular resection, or suturing of large wounds of the stomach or intestines, as this procedure favors healing of the visceral wound, and affords an additional protection against perforation.—*Annals of Surgery*, June, 1888.

COLD-BATH TREATMENT OF TYPHOID FEVER.—M. GLÉNARD declares that whenever the cold-bath treatment has been employed in typhoid fever by the fourth day, the malady has had a favorable course. His plan consists in giving, every three hours, night and day, whenever the temperature exceeds 39° C., a bath lasting twenty minutes, at a temperature of from 18° to 20° C. Advanced age, epilepsy, and valvular affections of the heart, *inter alia*, are contra-indications. The cold acts as a stimulant to the circulation and lowers the temperature. It tends to prevent complications due to hypostasis and hyperpyrexia, and it assists in maintaining the tone and functions of organs not already damaged. The cold baths never gave rise to bronchitis, pneumonia, or other complications, but if the application of the method be postponed until after the first week they may, of course, be already present, but in such case the gravity and importance will be less than they would be with any other treatment. In complicated cases it is best to begin with baths at 32° C., gradually cooled down, in order to watch the effect on the brain and heart. Baths should not be given oftener than every three hours, and they should be associated with the administration of stimulants. If necessary, gentle friction may be employed during and after the bath.—*London Med. Recorder*, May 21, 1888.

MALIGNANT TUMORS OF THE PROSTATE.—Neoplasms are in 90 per cent. primitive. In 10 per cent. they affect children from the age of 1 to 10.

Carcinoma furnishes 86 per cent.

Sarcoma is exceptional.

The connections of the gland and its abundance of lymphatics explains the almost constant and rapid spread (diffuse prostato-pelvic carcinoma).

Implication of the bladder is exceptional.

The predominant symptoms are functional disturbances of the urinary apparatus.

Hæmaturia is often absent.

The younger the subject, the more rapid the course.

The evolution varies from three months to five years.

The exploration of the pelvic cavity and the existence of radiating pains form the best basis for diagnosis.

The gravity of prognosis and the severity of some symptoms warrant operative interference; but, on the other hand, removal of the tumor is useless, on account of the rapidity of diffusion.—Dr. Engelbach, *Thèse de Paris*, 1888; *Jour. of Cutan. and Genito-Urinary Diseases*, June, 1888.

METHOD OF ESTIMATING ADDUCTION AND ABDUCTION OF THE LEG IN HIP DISEASE.—LOVETT'S method consists in calculating mathematically the angle of deflection. The legs of the patient being placed in a straight line with the body, if one leg be fixed in adduction or abduction there will be lateral tilting of the pelvis. Real shortening can be measured from the anterior superior spine to the malleolus; practical shortening from the umbilicus to a malleolus of each ankle. The line between the anterior superior spines will form two angles with the position it would occupy naturally by crossing the latter line diagonally. Either one of these two angles represents the angle of deflection of the leg on the diseased side. To estimate this angle in degrees Dr. Lovett has constructed a table. It will be seen that if the practical shortening is greater than the real shortening the diseased leg is adducted; if less than the real shortening, it is abducted.—*London Med. Recorder*, May 21, 1888.

HYPODERMIC INJECTIONS IN MALARIAL ATTACKS.—DR. LOYSEL recommends the following formula for hypodermic injection in malarial attacks: Liq. arsenicalis, ♏ 50; quiniæ sulph, ʒss; and tartaric q. s.; aqua destillata, ♏ 160. Injection for leucorrhœa—Potassium chloratis, 200 grs.; vin. opii, ʒiij; aqua picis (tar water), ʒviij.—*London Med. Recorder*, May 21, 1888.

THE
Journal of the American Medical Association.
PUBLISHED WEEKLY.

THE EDITOR OF THIS JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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SATURDAY, JUNE 16, 1888.

VERNONIN, A NEW CARDIAC POISON.

MM. EDOUARD HECKEL and F. SCHLAGDENHAUFFEN have recently communicated to the Académie des Sciences of Paris some facts in regard to vernonin, a new heart poison obtained from *Vernonia nigritiana* (known in Africa as *Batiatior* or *Batjentjor*), the root of which is used on the west coast of Africa as a febrifuge. As yet it has been impossible to obtain an alkaloid from the plant, but the alcoholic extract of the resin contains the glucoside vernonin, a white powder, slightly hygroscopic, the solution of which is pale yellow. It is only slightly soluble in ether and chloroform. The solutions, when evaporated, leave a colorless deposit of resinous appearance, which strikes a brown color with sulphuric acid, this color passing to a violet purple, and persisting for several hours.

According to Heckel and Schlagdenhauffen, when a few centigrams of the aqueous solution of the alcoholic extract are injected under the skin of the frog (in the thigh) paralysis of the limb soon supervenes. When the dose is large enough the heart soon ceases to beat, as after an injection of digitalis, convallaria, or strophanthus, and other vegetable cardiac poisons. A dose of gram 0.02 caused some cardiac trouble in the frog, but they soon disappear. With a dose of gram 0.04 there was at first a slight diminution in the amplitude of the cardiac movements; then, after about five minutes, the beats were twenty-four instead of thirty-three to the minute. In a short time the needle of the cardiograph dragged, and showed only two or three movements a minute. At intervals the arrests were interrupted by distension of the point of the heart from auricular action. In about forty minutes the heart was completely arrested, the needle tracing a straight line. With a dose of gram 0.09 the same phenomena were observed, and the animal died in about three hours.

Experiments on pigeons showed that gram 0.15 killed the birds in about fifteen hours. The autopsy shows the heart arrested in systole. Gram 0.25 kills a pigeon in about twelve hours.

The experimenters conclude that vernonin is very similar in its action to digitaline, but that its toxicity is twenty-five times less marked than that of digitaline. Contrary to what has been supposed, the root of the plant does not contain emetine.

EXIT—THE FAITH-CURE.

Under the title "Christian Science Manslaughter" an item from Malden, Mass., of May 26, states that Judge Pettingill found a Mrs. Abbie H. Corner, a "Christian Scientist," guilty of manslaughter in causing the death of her daughter, Mrs. Lottie James, by neglecting to provide proper medical assistance at the time of her confinement on April 18. She was held in $5,000 bail.

The case of Mrs. Mary M. Reiter, of Chicago, a woman who clung to Christian Science until death, was investigated by a coroner's jury about ten days ago. Mrs. Reiter had been ill with consumption, under the care of Mrs. John C. Barker, at 715 Fullerton avenue, for the eight weeks preceding her death, with no other treatment than that of Christian Science, which consists principally in telling the patient that she is not sick at all; she only thinks so. The jury recommended that the State's Attorney order an immediate investigation of the case, and not only that, but that all cases treated by Christian scientists, so-called, be investigated.

In California, a week or two ago, some "Salvation Army" people got into trouble by trying to "faith-cure" a sick child, which died.

And so it goes. It is about three years since this new fad had its birth in the East, and by the assistance of the newspapers spread over this country. For the newspapers, nothing was too good to say of it. Now, that the easily foreseen result has occurred, the papers have discovered that all is not wisdom that cries aloud in the streets, and are as ready to publish derogatory items concerning the "faith-cure" as they were at first hasty in flaunting its nonsense in the faces of sensible people. It will not be long before the now votaries of "Christian Science" will be in need of a new fad.

EDITORIAL NOTES.

THE INFLUENCE OF TEREBINTHINATE TREATMENT on the richness of the blood in oxyhæmoglobin has been studied by M. E. BREMONT, Fils. This treatment caused increase of weight and profound modifications in the state of the health, all other treatment being suspended. With the assistance of Henocque, who made the hæmotoscopic examinations, and of Dr. Fernet, he has found that the quantity of oxyhæmoglobin was notably increased, while the duration of the reduction was lessened, the weight of the patient being increased. The three patients examined were phthisical subjects; in one of these, after forty séances, the bacilli became more and more of a sporule form, and the elastic fibres disappeared; in another the bacilli, which were numerous at first, disappeared. This is new evidence of the value of the terebinthinate treatment which, by making the medicine penetrate the skin, transforms the oxygen of the red globules into ozone, it is claimed, and increases its oxidating power without disturbing the digestive functions.

THE OPERATIVE TREATMENT OF ECTOCARDIA has been successfully carried out by M. LANNELONGUE. The patient was a girl, æt. 6 years, a congenital ectocardiac. About the middle of the sternum was an ulceration about 2 cm. in diameter, and closed at the bottom by a yellowish membrane in process of mortification. This membrane was raised by the heart, and from its surface cardiac tracings could be taken. In a few days this membrane disappeared, and the ventricular wall engaged at the orifice. The cardiac apex was in front of and below the opening. M. Lannelongue made two laterally movable skin flaps, brought them together, and obtained union by second intention. The movements of the heart were sufficient to prevent adhesions. After four months cicatrization is solid, and the operation has practically transformed the ectocardia into subcutaneous cardiac ectopia.

A NEW NORWEGIAN JOURNAL.—We have received Nos. 1 to 10, Vol. I, of *Tidsskrift for praktisk Medicin*, a bi-monthly journal published at Christiania under the editorship of DR. V. UCHERMANN. It is neatly printed, on good paper, and the numbers received contain several interesting articles, among others one by Prof. Voss recording a large number of deformities occurring in his private practice.

ATROPIA POISONING.—In the *Virginia Medical Monthly*, of May, DR. LEWIS G. PEDIGO reports a case of atropia poisoning, due to the administration of half a grain of the sulphate by mistake. Alcohol, strychnia, morphine, galvanism, and inhalation of nitrite of amyl, occasionally, tided the patient over the crisis, after which the reflex excitability was controlled by bromide of potassium.

THE ANATOMICAL BOARD OF GEORGIA, organized last summer, is doing good work, and the indications are that an abundance of anatomical material will be supplied to the colleges in the State. The law provides that all bodies required to be buried at the public expense, except those claimed by relatives, shall be turned over to the Board.

EPHEDRIN, A NEW MYDRIATIC. — KINNOSUKE MIURA has found that ephedrin, the active principle of ephedra vulgaris, isolated by Professor W. N. Nagai, causes mydriasis of from 5 to 20 hours duration when used in a 10 per cent. solution. Its use is not followed by bad effects.

HOSPITAL TAX IN ST. PETERSBURG.—The municipal authorities of St. Petersburg have determined to impose a tax—if the Czar permit—on all citizens more than 17 years old. Men will be taxed $1.00 and women $.75. All persons paying this tax will be treated gratuitously at the hospitals.

RETIREMENT OF PROFESSOR DONDERS. — PROFESSOR FRANCISCUS CORNELIS DONDERS, the well-known ophthalmologist of Utrecht, celebrated his seventieth birth-day on May 27, and retired from his chair in the University, according to the Netherland law.

ONTARIO MEDICAL LIBRARY ASSOCIATION.—This Association has been formed to provide a reference medical library for the use of the profession in Ontario. The nominal capital is $10,000, the shares being $5 each.

LIPANINE, a substitute for cod-liver oil, is a substance made by Kahlbaum, of Berlin, by partial saponification of olive oil. Kohts claims that he has been pleased with the results of its use in his children's clinic in Strassburg.

EXTRAORDINARY REJECTION OF CANDIDATES.—In British Columbia this year all the candidates who went before the examining board were referred to their studies. It should be said that the *all* included *two* candidates only.

A MARBLE BUST OF CARL SCHRÖDER was placed in the Frauenklinik of the University of Berlin on May 27.

SPECIAL ARTICLE.

THE TRANSPLANTING OF A RABBIT'S CORNEA INTO THE HUMAN EYE

Dr. Julian J. Chisholm has recently successfully performed this operation at the Presbyterian Eye, Ear and Throat Charity Hospital, of Baltimore city. The patient was a healthy man, 35 years of age, who had lost both eyes from the effects of caustic lime three years since. Symblepharon, or the union of the eye-lids to the entire surface of the eye-balls, was the outgrowth of the accident, with the sloughing surfaces of conjunctiva induced by the lime. Operations had been done successfully to liberate the lids from the cornea, but still the fleshy opaque cornea remained with no prospect whatever of clearing up. In this hopelessly blind man Dr. Chisholm has successfully performed that wonderful operation devised by Prof. von Hippel, of Giessen, Germany, viz: the insertion of a clear piece of a rabbit's cornea into an opening made for it through the opaque human cornea. This section and fitting can be done only by the use of von Hippel's cornea trephine, a circular blade similar to that of the artificial leech, made to run by clock-work.

To perform the operation properly the opaque cornea of the human subject must be removed down to Descemet's membrane, which must not be punctured. This requires great delicacy in the manipulation of the trephine. When nearly the whole thickness of the cornea has been cut through the circular piece must be seized by the forceps and drawn away, leaving the thin lining membrane of the anterior chamber intact. With the same trephine a duplicate plug of the rabbit's cornea is taken, going this time quite through into the anterior chamber, and therefore including the membrane of Descemet. It is necessary to have this additional thickness in the graft to make it equal to the piece of cornea removed from the human eye, so as to keep the superficial surfaces on the same plane. The round segment from the rabbit's cornea is then carefully adjusted to the opening made in the centre of the human cornea, Descemet's surface to Descemet's surface, and represents a clear central corneal window corresponding to the pupilary space. The closure of the lids with compress and bandage completes the operation. In a very few days the graft, as in skin grafting, becomes adherent; and the wonderful effects of this delicate operation begin to be enjoyed by the patient.

As both the man's and the rabbit's eye were under the effects of cocaine, no pain was experienced by the man nor exhibited by the rabbit.

So far as is known only three ophthalmic surgeons have performed this operation: Dr. von Hippel, in Giessen, Dr. Fox, in Philadelphia, and now Dr. Chisholm, in Baltimore. The advantages of this transplantation cannot be applied to all lost eyes. Unfortunately it is restricted to cases of corneal opacity in which the internal structures of the eye retain their integrity. Iris, pupil, lens and retina must all be good, otherwise no benefit will accrue. Even these restrictions, however, open this great blessing of restored sight to a large class of persons heretofore considered hopelessly blind.

SOCIETY PROCEEDINGS.

CONNECTICUT STATE MEDICAL SOCIETY.

Held in the City Hall, New Haven, May 23 and 24, 1888.

Wednesday, May 23—First Day.

The President, Dr. Francis Bacon, of New Haven, called the Society to order at 3 P.M.

After hearing the report of the committee on credentials, The President delivered his

ANNUAL ADDRESS.

He welcomed those present, and spoke upon the *Proposed Changes in the Charter*. These had caused serious disturbance in the Society for a number of years, and he hoped that it would be settled this year so that more time could be given to scientific work. He advised that a standing committee be appointed to watch the interests of the Society in the legislature of the State, so that no injust laws, in regard to the profession, should be passed without a protest from this body. He would be pleased to see the meetings of the Society held in the several cities of the State, and not alternate between New Haven and Hartford, as has always been the custom. This, he thought, would create an interest in some parts of the State where at present there was no interest felt.

He announced that both the Treasurer and Secretary declined to hold their positions any longer, and that it would be necessary to elect new men to hold the offices that had been so ably filled for so many years. He thought the President should be chosen on account of his fitness and not because he came from any particular county, and it was a detriment to the Society to follow any rotation in the position of President.

The Treasurer reported that there had been received during the year $768.21; and there had been expended $695.20. He had on hand at present $832.13.

Dr. J. C. Dalton, of New York, was elected an honorary member of the Society.

The committee on honorary members proposed the name of Dr. Edward M. Moore, of Buffalo, N. Y. According to custom this was laid over until the next annual meeting.

The following were elected

OFFICERS FOR THE ENSUING YEAR.

President—Dr. Geo. L. Porter, of Bridgeport.
Vice-President—Dr. O. Brown, of Washington.
Treasurer—Dr. W. W. Knight, of Hartford.
Secretary—Dr. N. E. Worden, of Bridgeport.
Committee on Matters of Professional Interest—Drs. L. P. Almy, L. S. Day and W. L. Ford.
Dissertator—Dr. P. H. Ingalls.
Delegates to the American Medical Association—Drs. J. B. Kent, C. B. Newton, E. C. Kinney, W. H. Welch, S. J. St. John, C. B. Hill, F. D. Edgarton, W. H. Bull, B. W. Munson and F. E. Beckwith.

Delegates to the Medical Societies of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, New York and New Jersey were also elected.

In the evening the Society was invited, by the faculty of the Yale Medical School, to attend a

MICROSCOPICAL SOIRÉE,

after which Dr. Francis Bacon tendered a reception to the members at his residence.

THURSDAY, MAY 24—SECOND DAY.

At 9 P.M. the Society was called to order, with the President in the Chair. The Secretary reported that there had been received during the year

THIRTY-FOUR NEW MEMBERS,

that ten of the old members had died, and two had been dropped from membership. A large number had left the State during the year. The total membership at present is four hundred and ninety-four.

The *Annual Address* of THE PRESIDENT to the Society was then given. In this the President spoke of

THE RELATION OF THE INSANE TO THE LAWS OF THE STATE.

This State compares most unfavorably with the majority of the States. Any "reputable physician" can send his neighbor into confinement by certifying that he is insane. He thought a competent and permanent commission should be appointed to act in all cases of suspected insanity. He also spoke of the plea of "emotional insanity" so often brought before the courts, and said he was glad the courts of Connecticut had never been disgraced by such a plea. He did not think experts could diagnosticate between emotional insanity and uncontrollable anger. The expert testimony often given was of no value, the witness generally testifying for the side they were employed. He asked the question, What are the "romantic indicia," and what is their diagnostic value? In listening to the expert witnesses we are impressed with the abundance, variety and certainty of these signs, but in studying the best systematic treatises we are struck with the poverty and insignificance of the same phenomena as materials for diagnosis. He quoted a number of cases where time proved that the expert testimony was just opposite to the true state of affairs

He thought in all cases of homicidal mania, even if emotional insanity, that society demands as a protection against future attacks, that the person in question should be confined for life and not for any definite period.

Delegates from Massachusetts, Vermont and Rhode Island were then introduced and made a few remarks.

This was followed by reports of delegates from this Society to those of neighboring States.

DR. R. M. GRISWOLD read a paper, taking his subject from Genesis, III, 16.

"IN SORROW THOU SHALL BRING FORTH CHILDREN."

He said man was perfect until the downfall of Adam, and as a punishment pain and sickness was sent. Deformed and diseased women are met everywhere by the obstretician. He then spoke at length of the means we have of assisting women in labor. For uterine inertia he used quinine, ginger, in the form of hot tea, and exercise. He gave the quinine in doses of from 2 to 5 grains every twenty minutes until four or five doses had been given, and this was usually all that was required. Chloroform and emetics he used for rigid os. When the pain was so severe a woman could not help herself, a little chloroform at the beginning of the pain would be of very great assistance. Forceps he thought of great utility, and wondered that in this age of building monuments that the women did not build a monument to Chamberlain, their inventor. By the use of forceps the number of still-births are greatly lessened and ruptures more infrequent.

In the discussion that followed DR. DOUGLAS said that he thought quinine, combined with an aromatic, more effective than when given alone.

DR. KINNEY would never give ergot until the child could be immediately delivered, but would never hesitate to use forceps when the vagina began to grow dry.

DR. J. MCKENISTON read a paper on

PARALDEHYDE.

As a sleep-producer this drug was what had been sought for for many years. There was no disagreeable after effect. He recommended that it be given after the patient had obtained what natural sleep he could. He frequently had given it in ʒj doses until three doses had been given, and then if the desired effect was not obtained he used something else, but in his hands it had seldom failed. It is a perfectly safe drug and is not likely to injure any important organ. As compared with chloral and bromide, he considered its action quicker than than of chloral and as safe as bromide and more to be depended upon.

DR. G. M. SHEPHERD read a paper on

THE FREQUENCY OF ALBUMIN IN THE URINE OF THE HEALTHY.

For a long time this has been observed and recognized to be of only temporary occurrence. He quoted the late Dr. Flint as saying that albumin in the urine, even with casts, was not always a grave symptom. He read a large number of statistics showing the frequency of this occurrence.

ALCOHOL IN THERAPEUTICS

was the title of a paper read by DR. E. F. PARSONS.

Scripture was quoted by him to show that in the time of Christ, and long before that, alcohol was used as a medicine. He thought no one should hesitate to use it when nature demanded it. It is a stimulant to the brain, heart and stomach, increases the size of the capillaries and raises temperature. He asserted that alcohol is a food. It can carry on the duties of the body, for a time, without the loss of weight. It should be used in all diseases that cause death by exhaustion. He said that Dr. B. W. Richardson, of London, and Dr. N. S. Davis, of Chicago, were among the most prominent of those opposed to alcohol in therapeutics, and even these gentlemen used it in some instances.

DR. C. B. NEWTON read a paper on

PNEUMONIA,

speaking more particularly upon the prevention than

treatment. He thought a lower temperature should be kept in the dwelling-houses and work-shops than is usual in most houses and manufactories.

DR. J. K. THACHER read a paper on the

RELATION BETWEEN CARDIAC HYPERTROPHY AND NEPHRITIS.

He gave the history of a case of nephritis following scarlet fever. From the first appearance of the nephritis there was increased arterial tension, and later cardiac hypertrophy. A few weeks after the nephritis disappeared. This case and others similar lead him to believe that the cardiac hypertrophy was secondary to the nephritis.

DR. G. C. SEGUR reported a case of

TYPHOID FEVER IN A CHILD AGED 13 YEARS.

This had been treated with antipyrin in doses of 15 to 20 grs. with the best of results. He thought antipyrin particularly suited to the treatment of the high temperature of typhoid fever.

The papers that had been read before the several county societies were read by title.

The meeting adjourned at 3 P.M., to the New Haven House, where the annual dinner was held.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, May 9, 1888.

THE PRESIDENT, J. SOLIS-COHEN, M.D., IN THE CHAIR.

DR. G. E. DE SCHWEINITZ read a paper on

SOME CASES OF HABIT CHOREA, AND THEIR TREATMENT.

As is well known, there are certain local choreas for which no definite cause can be assigned, and in which, as Dr. Wood puts it, the movements closely simulate purposive acts. A child suffering with this malady—for it usually occurs in children, especially girls—is brought for treatment because it has adopted some trick of gesture. An eye may be rapidly winked, or the eyeball rolled upward, or the brow wrinkled, or the facial muscles contorted, or, it may be, the shoulder is shrugged, or a forward movement of the head or jaw indulged in. At first these movements are under the control of the will, but gradually become more and more obstinate, and more and more aggravated, especially when attention is drawn to them, and sometimes the variety of the performances in a single day is truly remarkable. This affection has been admirably described by Dr. S. Weir Mitchell, and from him has received the name Habit Chorea.[1]

A number of these cases have occurred to me in the past few years, in which the examination and treatment of the eyes have proved of distinct advantage to the patient, and these may prove interesting.

Case 1.—A. B., a girl, æt. 10, was referred to me by Dr. Wharton Sinkler, Feb. 2, 1885. This child had been brought to Dr. Sinkler about a year before, and then the following facts were elicited: No history of rheumatism; scarlatina when 6 years old. General health good, appetite and digestion normal. The movements noted were confined to the orbicularis, the right side of the face and neck, and to the tongue. In spite of the most judicious antichoreic treatment these remained unchanged. The following results were obtained by an eye examination:

O.D. $\frac{15}{XL}$. Amplitude of accommodation 8 D.

O.S. $\frac{15}{XXX}$. Amplitude of accommodation 8.5 D.

Conjunctivæ injected, slight blepharitis in each eye, and a history of successive crops of styes.

O.D. Small oval disk; choroid ring all around, absorbing at outer side. Retina markedly striated, veiling all edges of disk except the temporal. Many lymph reflexes. O.S. Oval disk, less retinal striation, but inner side of disc veiled.

Atropine solution to full ciliary paralysis was ordered, and the error of refraction determined. This proved to be as follows:

O.D. + 2. s ◯ + 1. c, axis 90. O.S. + 2.25 s ◯ + 0.60 c, axis 90.

The full correction was ordered, the constitutional remedies continued and the result was an entire cure of the spasmodic movements.

Case 2.—J. H. B., a lad æt. 17, referred to me by Dr. S. Weir Mitchell, Nov. 5, 1886. This boy had consulted Dr. Mitchell because he had "got a trick" of twitching his eyes and rolling the balls upward." Before he saw Dr. Mitchell he had been treated with a long course of arsenic and a number of antichoreic and antispasmodic remedies without avail. An eye examination revealed the following points:

O.D. $\frac{15}{XX}$? Amplitude of accommodation 7 D.

O.S. $\frac{15}{XX}$. Amplitude of accommodation 6 D.

Conjunctival watery and posterior conjunctional vessels injected and tortuous.

O.D. Small nerve, a white patch over central vessels. Retina much striated and general choroidal disturbance, with a halo-like band at the lower and outer side of the disc. O.S. Small nerve. Central lymph-sheath full, and nerve surrounded by a broad halo-like band.

Sulphate of hyoscyamia to full ciliary paralysis was ordered, and the correction of the refraction error determined as follows:

O.D. + 0.60 c, axis 60. O.S. + 0.25 s ◯ + 0.60 c, axis 90.

This glass was ordered, and after several months of rest the boy allowed to resume his studies. Ten month later he returned, and the movements had almost absolutely disappeared. His vision then, through the correcting glass, was with each eye, $\frac{15}{XV}$, and the amplitude of accommodation was 10 D. Through these glasses there was at 30 centimetres

[1] Nervous Diseases, 2d edition, by S. Weir Mitchell, M.D.

an exophoria (insufficiency of the interni) of 4°; no disturbance of equipoise at twenty feet. The abducting power was 7°.

Case 3.—M. E., a girl, æt. 18, referred to me by Dr. Wharton Sinkler, May 20, 1887. The patient's mother had chorea when a child. The patient herself was perfectly healthy until she was 10 years of age. She was then attacked with general chorea, which, however, chiefly affected the face, arms, and the shoulders. At 12 years of age menstruation was established, and the chorea ceased, except for the movements of a spasmodic character, which continued in the face, eyelids, and eyebrows. For a time these grew better, but later, for a space of two years, grew worse, and the habit became more fixed. In April, of 1887, the patient was in fair general health, with occasional dyspeptic attacks and dysmenorrhœa. The movements were now confined to the upper part of the face, and consisted in sudden tight closing of the eyes, rapid raising of the eyebrows and wrinkling of the forehead, with to-and-fro movements of the occipito-frontalis, and an occasional jerk of the head and shrug of the shoulder. The movements were not constant, but were increased when attention was drawn to the trouble. The eye examination yielded the following results:

O.D. $\frac{15}{XX}$. Amplitude of accommodation 8 D.

O.S. $\frac{15}{XX}$. Amplitude of accommodation 8 D.

Conjunctivæ slightly suffused, distinct dread of light, and the retrotarsal folds studded with numerous phlyctenules. In each eye round disk, slight crescents at the outer sides, and marked retinal striation. Refraction doubtful, fundus best studied with concave glass, probably spasm.

Atropine in full strength was used for four days, and complete ciliary paralysis secured. The vision steadily rose, and on the fourth day was easily $\frac{15}{XII}$, and unimproved by any glass; in short, the eyes were absolutely emmetropic. The mydriatic was continued until all traces of the phlyctenular conjunctivitis had disappeared, and the retinal congestion had subsided. During this treatment the movements markedly decreased, although formerly under the best of internal medication these had stubbornly resisted. About a year later, when last seen, the head movements had entirely ceased; there was an occasional shrug of the shoulder; the eyes were comfortable, the vision and accommodation normal; esophoria 2° at 5 metres.

Case 4.—D. G., a boy, æt. 10, referred to me by Dr. James C. Wilson, under whose care the patient was for catarrhal jaundice. For some time the boy had adopted the habit of "making faces." This peculiarity had well-nigh ceased during a period when he was laid up in bed with an injury. One movement, however, persisted, viz., a remarkable spasmodic contraction of the right orbicularis palpebrarum almost as complete and decided as if a current had been applied to the motor point. The eyes were as follows:

O.D. $\frac{15}{XV}$. Amplitude of accommodation 9 D.

O.S. $\frac{15}{XV}$. Amplitude of accommodation 10 D. Exophoria in accommodation 7°.

Eyelids heavy; caruncles swollen. The conjunctiva, especially of the fornix, reddened and velvety, and the lymph-follicles swollen; slight mucopurulent discharge in the mornings. Reading was an effort, and sometimes occasioned headache.

O.D. Round nerve, central venous lymph sheath full; retina striated. O.S. Oval disc, slightly hazey retina, and full venous lymph sheaths. Cumulative instillations of homatropine were ordered, and the refraction tested and found to be O.D. + 0.65 s. O.S. + 0.50 s.

This glass was ordered for all near work, and the local condition in the conjunctiva treated with boric acid, insuffiation of calomel, and later painting with a weak solution of nitrate of silver. Internally, Dr. Wilson ordered Fowler's solution in ascending doses.

A month later a letter stated that the eyes were more comfortable, and the twitching was seldom noticed.

Case 5.—S. B., a girl, æt. 16, referred to me by Dr. S. Weir Mitchell Jan. 9, 1888. This patient was a finely developed girl, perfectly healthy, no history of rheumatism, scarlatina, or fright. She had formed the habit of rapidly winking, or spasmodically closing the eyes, especially the right one. The movement, at first under the control of the will, gradually became fixed, and was a source of much annoyance and embarrassment. She also suffered from severe brow-ache. An examination of her eyes yielded the following results: O.D. $\frac{15}{XV}$. Amplitude of accommodation 10 D. O.S. $\frac{15}{XV}$. Amplitude of accommodation 10 D. Exophoria in accommodation 7°. The external appearances of the eyes were normal; the conjunctivæ smooth, the vessels free from congestion. Full atropine mydriasis was secured, and the refraction error determined O.D. + 2.25 s. O.S. + 2.25 s.

A full correction was ordered; Fowler's solution was given internally, and one month after the treatment was begun the headaches had disappeared and the spasmodic movements well-nigh subsided.

Case 6.—A. B., a boy æt. 11, was brought to me for an eye examination. This lad was of fine physical development, with no family or personal nervous taint, except that he had for some time been noticed to squint his eyes inward, as children often do "for fun," and rapidly close and open his eyes, making at the same time a curious grimace. The boy was very fond of books, and this habit was most marked when he was poring over some work which was especially interesting to him. The eye examination was as follows: O.D. $\frac{15}{XV}$. Amplitude of ac-

commodation 8 D. O.S. $\frac{15}{XV}$. Amplitude of accommodation 8 D. No insufficiency.

Conjunctivæ suffused, and posterior vessels injected.

In each eye irregularly oval disks; conus; full central lymph sheaths, and general retino-choroidal disturbance. H.=1.5 D. V. V. higher. Atropine and correction of the refraction error was advised, but advice was declined. The boy was, however, forbidden to use his eyes for near work as much as possible and given the usual remedies. When last heard from he was reported as better, but the habit spasm still continued.

Case 7.—W. F. C., a young man, æt. 18, applied for treatment Jan. 17, 1888. His general health was good. No history of rheumatism. Works hard in a factory. A few years ago, when about 12 years of age, had attacks of "chorea," confined to the muscles of the face, chiefly the orbicularis. This passed away under general treatment. For some months past he had acquired the habit of rapidly closing and shutting his eyes, with a quick, snapping movement. No other muscles affected. This was partially under control of the will, but was made worse under examination. The eyes were examined and found as follows:

O.D. $\frac{15}{XV}$. Amplitude of accommodation 8.5 D.

L. Hyperphoria 1°.

O.S. $\frac{15}{XII}$. Amplitude of accommodation 8.5 D.

Exophoria 2°.

Conjunctivæ injected, but not catarrhal, no phlyctænules or swollen lymph follicles. Small oval optic disks; nasal edges veiled, and coarse retinal striatum above and below, veins and central sheaths full. Distinct dread of light.

Atropine was ordered, and continued for several days. Under this the refraction was found to be O.D + 0.60 s. O.S. + 0.50 s.

These glasses were ordered for constant wear. No constitutional treatment was given. Some months later he was reported as comfortable, so far as the eyes were concerned, and that the nervousness had departed.

These seven cases suffice to give an idea of what service the correction of the errors of refraction was in the treatment of this disorder. In three of them the habit spasm, as Gowers would say, had existed for a long time, and judicious internal medication and proper hygiene had failed to achieve the desired result; which result, however, was attained after the eyes had been thoroughly treated and corrected. In two others the constitutional and the eye treatment were begun simultaneously, and the rapid improvement showed the value of this combination. In one instance the eye examination and the correction of the anomalies of refraction were declined, and the habit still continues. In another the wearing of the glasses was the only course pursued and the result was most favorable. In all the cases where errors of refraction existed these were either hypermetropia or hypermetropic astigmatism; in two the errors were 2 D. and more; in three less than 1 D., and in one the eyes were emmetropic. It is not unworthy to call attention to the fact that so low an error as 0.50 D. may prove an exciting cause, the removal of which aids in restoring the patient to a normal tone. Case 3 is especially interesting, because here a general chorea disappeared, and in its place came a habit chorea—for there is no doubt that the disorder in this patient is correctly so classified—exactly as Dr. Mitchell has observed, in a few instances these cases lapse into well-pronounced chorea of the ordinary type. It is further useful to observe that the eyes in this case were emmetropic, but that when the existing spasm of accommodation and phlyctænular conjunctivitis had disappeared under the use of the atropine, the patient made rapid strides along the road to recovery. This leads me to speak of the value of closely observing the condition of the conjunctiva, especially of the retro-tarsal folds, in this malady. Years ago, the late Prof. Fr. Horner[2] called attention to the fact that children, when they first attended school, were sometimes observed to be given to undue winking of the eyes and that without the presence of strong light. As an accompaniment, there were often movements of the muscles of the face, arm, or leg. In these cases the local cause was most often found to be some disorder of the conjunctiva, especially follicular catarrh, blepharitis, or an anomaly of refraction, usually hypermetropia. Indeed, in a few instances, the local condition was manifestly the exciting cause of a chorea minor. Treatment of the conjunctival catarrh and correction of the hypermetropia, removed the difficulty. Not only may the local conjunctival disturbance and the refraction errors exist, but there may be also imperfect equipoise of the eye-muscles. It is scarcely necessary to refer to this as a possible important factor. In recent times much graver nervous disorders have been attributed to such insufficiencies of the ocular muscles, and for their correction by surgical and other means, most brilliant results have been claimed.

It is very far from my intention to give an undue importance to these errors of refraction and inflammation of the conjunctiva as exciting agents in the causation of habit chorea. I am not unmindful of the large number of instances that may be directly traced to nasal disorders,[3] to diseases of the pharynx; nor do I forget that other large class to which no adequate cause can be assigned. I only wish to recall to the memory the value of searching for these among the other causes, and to emphasize the facts that if the habit spasm especially affects the muscles of the face, particularly those around the eye, the following points deserve attention:

1. The condition of the refraction and the muscular balance should be carefully examined and if found abnormal corrected.

2. The anomaly of refraction should be determined under complete ciliary paralysis and the full, not a partial, correction ordered.

[2] Handbuch der Kinderkankheiten. C. Gerhard. Fünfter Band, zweite Abtheilung. Tübingen, 1882.

[3] Jacobi: Amer. Jour. Med. Sciences, N. S., 1886. xci. 517-522.

3. This correction should be employed in conjunction with proper internal medication and general hygiene and not to the exclusion of these measures.

DR. S. SOLIS COHEN: I have met, more especially in dispensary practice, with a number of cases similar to those reported. Prof. DaCosta has for many years called the attention of his classes at the Jefferson Hospital Clinics to this group of choreic disorders associated with eye-strain, and during my service as Chief of the Medical Clinic there would be from three to six such cases presented during the term. In nearly every instance the defect was hypermetropic astigmatism; in most of the few remaining, simple hypermetropia; in one or two, if my recollection serves, simple astigmatism. In order to note the effect of correction of the refractive error the medication was confined to peppermint water. Some of the cases were affected with facial spasm only, but a few had spasm of the limbs as well. In one or two cases the spasms were unilateral, though I cannot say now whether the error was also unilateral. My impression is that it was not.

In every case that remained under observation cure was effected by the correction without medication. Some of the patients disappeared after correction and in these, presumably, recovery was immediate. In a case now under my care in private practice, a girl complained of frequently falling in the street, from sudden failure, as she expressed it, "of the knees." The eyes were prominent, and the heart rapid, so that a suspicion of Graves' disease was entertained. About a week ago Dr. Jackson corrected the hypermetropia which he discovered, and to-day the girl reported to me that she had been perfectly well since. The apparent protrusion of the eyes being due to muscular effort, has disappeared, and the cardiac rapidity has abated.

I presume that the reason we find this association of nervous spasm with hypermetropia rather than myopia, is that the former gives greater and more constant strain upon the muscles of accommodation.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday, May 3, 1888.

THE PRESIDENT, T. M. DRYSDALE, M.D., IN THE CHAIR.

DR. JOSEPH PRICE reported a case of

TYPHOID FEVER FOLLOWING OVARIOTOMY.

Mrs. E. N., æt. 37, one child sixteen years ago, one miscarriage fourteen years ago, complaining since miscarriage of great pelvic pain, etc., was operated on at the Gynecean Hospital, February 11, 1888, for the removal of the right uterine appendages. The tube and ovary were firmly adherent to and under the fundus uteri. The ovary was enlarged and cystic. The removal was not difficult and the operation was completed in twenty minutes. Two years previously the left appendages were removed for a small inflamed and adherent ovarian cyst, the right side at that time appearing perfectly healthy. The recovery from this first operation was speedy, and for a year the patient seemed in perfect health. Then the symptoms of pelvic trouble returned and were referred to the right side. From the second operation the patient reacted perfectly, and for nine days her temperature constantly remained above normal, varying from 98.6° to 100.1°, the intermissions never amounting to 1°. During this time she also complained of a good deal of headache, weakness and mental depression. On the evening of the ninth day her temperature ran up to 102° and she had a slight rigor. From that time she presented a typical case of typhoid fever, including the characteristic temperature record, stools and eruption. The nervous symptoms were not particularly marked. The temperature varied from 99 8° to 104.8° for four weeks. The patient made a good recovery and is now in better health than before the operation.

The points of interest in this case are, first, that the patient was probably in the early stage of typhoid fever when she entered the hospital, there having been no cases of typhoid in or near the hospital at that time; second, the operation did not seem to influence the course of the fever nor the fever the result of the operation; third, the temperature, combined with the early constipation and meteorism, were naturally attributed to the operation and treated accordingly until the diagnosis of typhoid fever was made, after which the usual expectant treatment for that disease was pursued.

DR. HOWARD A. KELLY exhibited a

KNIFE-BLADE TENACULUM.

While he had rarely found, in his experience, that local depletion was alone valuable as an agent for the cure of any form of uterine disease, he frequently found it a powerful adjuvant, similar in its results to the benefits obtained from the cotton tampon.

Chronic or recurring pelvic congestions, accompanied by great pain and discomfort, can often be tapped by a free depletion of the cervix, and the patient's condition temporarily much improved. Many of the neurotic symptoms associated with a congested, puffy, blue, plethoric cervix, also undergo marked improvement with this plan of treatment, judiciously carried out, combined with applications of glycerole packs or tamponning.

He knew of no other method equally serviceable and speedy for the treatment of lacerations of the cervix with eversion and infiltration of the lips. Many cases upon which he had heretofore been in the habit of operating now recover perfectly when thus treated, and remain well if the uterus is prevented from sagging, by giving proper support to a torn or relaxed outlet. Except in the latter condition, when associated with lacerations, depletion is not often called for in spare or anæmic patients.

To secure any advantage by this method it must be carried out thoroughly. I am in the habit of drawing from 6 drachms to 1 oz. or 1½ oz. of blood every five days or once a week, following the depletion immediately by a glycerole or boracic acid pack, which is often retained until the next depletion.

To deplete the congested pelvic organs he has used

the cervix on both vaginal and uterine surfaces and the vault of the vagina, the latter being used in a series of experimental studies. He is not sure that it has any special advantage over the simple depletion of the cervix. Serious difficulties have occasionally arisen in other hands from too deep a penetration of the scarifier, which may wound an artery of large calibre and give rise to alarming hæmorrhage. Difficulties also arise in the use of the spear-pointed instruments, which often occasion great pain to the patient, obliging the operator to desist or to make but few punctures. A serious practical objection against the straight instruments in use, is that the depletion can only be practiced with safety and satisfaction upon the prominent rounded extremity of the cervix. To obviate these objections he had invented the "knife-blade tenaculum" here figured, which had been in

extensive use in his office for many months. It is made like an ordinary tenaculum with a blade in place of the hook. This blade is placed at an angle slightly obtuse to the handle, and about the same length as the point on the ordinary rectangular uterine tenaculum. In using it the cervix should be fixed by a tenaculum in the uterine canal, when the small, short blade of the instrument can be plunged rapidly in a number of places into the vaginal surface of the cervix anteriorly and laterally, and even within the cervical canal, being sometimes used to open a very small external os. The shortness of the blade, and the fact that it is placed at an angle to the shaft, prevents a deep and dangerous penetration, and if the cutting edge is kept sharp and it is used with rapidity it occasions, as a rule, but little pain to the patient.

This tenaculum is made entirely of metal, 7½ in. in length, tapering gracefully from handle to the blade, which is $\frac{2}{16}$ of an inch long, $\frac{1}{16}$ of an inch broad at its base, $\frac{1}{32}$ of an inch wide on its back. A very satisfactory model has been made by Mr. Gemrig, of this city, who furnishes the wood cut.

Dr. J. C. Da Costa was glad to hear Dr. Kelly speak so highly of the value of depletion in certain diseases of the uterus. He was in the habit of exemplifying this by the exhibition, each winter, of one or two suitable cases to his class at the Jefferson Hospital. He thought if from 1 to 4 ozs. or more blood was removed, instead of 6 drachms, that the effect would be better. A woman who, when placed on the table, is suffering with great pain and with an angry-looking cervix, will, after such treatment, leave the table free from pain and with the uterus paled down. The knife exhibited he thought was very pretty, but an ordinary straight bistoury enabled him to puncture the neck all over and inside as well. Even if an artery were cut it was of small matter. The trouble usually was that the bleeding stopped too soon. If he removed the speculum the bleeding almost always stopped, but the speculum was always replaced to make sure that this was stopped.

Dr. Wm. Goodell remarked that there was one point which Dr. Da Costa had overlooked, and that was that, in most cases, simple exposure of the cervix to the air by the speculum will cause it to become pale, although he granted that the effect was doubled by the loss of blood. He used to bleed very frequently, and occasionally still did so, but not so often as formerly, because he believed the importance of uterine congestion was overestimated. With reference to the hæmorrhage, while he in a measure agreed with the last speaker, that it was not usually to be feared, yet he had a patient who bled so furiously after she reached home that she had to send for a physician to check it. On one occasion, while plunging a Battles spear, he struck a vessel of such size as to throw a stream of blood directly out of the speculum. But ordinarily the difficulty was to secure enough blood. When the punctures bleed too much he touched each one with a pointed stick of lunar caustic, which never failed to stop the hæmorrhage.

Dr. Parish could endorse all that Dr. Kelly had said. For a number of years he had practiced this method of depletion of the uterus, whether there was laceration or not, when the organ was in a condition of congestion. He also emphasized what had been said with reference to the relief and cure of symptoms in cases of laceration of the cervix. He had seen as a result in many of these cases a perfect union of the denuded surfaces, but a continuation of the pain and distress and frequently an increase of dysmenorrhœa. In cases where the laceration was not deep he substituted the method of local depletion, conjoined with other treatment, for the operation. He added that depletion of the cervix, and particularly of the canal, was one of the best methods of treating many cases of endometritis. He had seen sterility of eight and ten years' standing practically cured by this method of depletion.

Dr. Kelly thought that 1½ ounce of blood removed every few days was quite sufficient. In performing the depletion the patient lies on the back with either Goodell's or Nelson's speculum in place, which conducts the blood into a wide-mouthed bottle with graduated capacity. He was glad that the members had expressed themselves so freely and favorably in this matter, as these are the practical conclusions at which he had arrived.

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

Sulfonal, a New Opiate—Bicarbonate of Potash in Iodoform Poisoning—Attempt to blow up a Hospital—Gluten Bread—Dwarfing by Factories and Tenements—Treatment of Spinal Abscesses—Virchow.

Professor Kast announces his discovery of a new opiate. He calls it "sulfonal" and it belongs to the group of the so-called di-sulphates, and in an oxydation product of the union of "acthylmerkuptan" with acetone, in crystals without taste or smell, easily dissolvable. It has the property of inducing

sleep in invalids, particularly in nervous people and those affected with heart disease, but not in healthy subjects. Prof. Kast has observed that "sulfonal" produces sleep without altering the pressure of the blood in any degree. An accident led to the discovery of the sleep producing property of "sulfonal." It had been administered to some dogs with quite a different intention and the animals first were affected as if with intoxication, and afterwards fell into a deep sleep. Experiments made on healthy persons, chiefly medical men, and then on patients in hospitals and lunatic asylums, have proved that the drug is a harmless and certain means of producing sleep in invalids.

A 20 per cent. solution of bicarbonate of potash has recently been given as an antidote in a case of severe iodoform poisoning. As the best results followed, there has been of late to look upon this salt as a direct antidote to iodoform. It would be interesting if some of the pharmaceutical chemists would investigate the action of bicarbonate of potash on iodoform.

An attempt has been made to blow up a wooden building intended as an isolatory hospital at St. George's, an extensive suburb of Bristol. There had been, it appears, a strong prejudice against the use of the site for this purpose, it being used as a playground by children. The local authorities, however, persisted. The building was erected and placed in charge of a caretaker, but no patients had yet been sent there. Upon examination immediately after the report it was found that a quantity of gunpowder had been placed under the east corner and fired with a fuse, fortunately the charge being unskilfully laid very little damage was done.

A better kind of gluten bread is now being used by invalids suffering from diabetes, it resembles ordinary bread in its general aspect, and is not unlike in taste certain kinds of cakes which are readily eaten by most people. Moreover it is easily masticated. The formula from which this new gluten bread is made is set down thus: Best quality of yeast 20 grams, cold water 120 grams, butter 125 grams, gluten flour 500 grams, and 4 eggs. For one loaf. The yeast is stirred carefully and quietly into the water, then the eggs and butter are added and the whole melted. The gluten flour is mixed in and worked up with these ingredients, and a round loaf is thus made which is about 18 inches wide and 20 inches deep, it is placed before the fire for about an hour, to cause the dough to rise, and is baked in an oven heated from below. It is stated on all hands that the above is an improvement on the old kind of gluten bread which gave practitioners so much annoyance, as many patients could not eat it, and complained of its feeling like so much parchment in the mouth.

According to the annual report of the Inspector General of Recruiting, it would appear that there is no escape from the conclusion that the influence of factory and tenement is progressively dwarfing a large mass of the population. It appears that in the last year 74,991 men offered themselves for examination, 15,280 were rejected on account of bad health, 17,573 were healthy but undersized, in about 16,000 of these the defects are more precisely mentioned, 10,000 being rejected for undersized chests, 2,000 were under weight, and 4,000 under height.

Mr. Watson Cheyne, in discussing the treatment of spinal abscesses, considers three things have especially to be considered—the contents of the abscess, the wall, and the lesion of bone from which they start, although the latter cannot always be made out. Mr. Cheyne recognizes three types of tubercular abscess, (1) tubercular cavities containing soft, cheesy material, (2) tubercular sequestra, either unseparated or in cavity lined with tubercular granulations, and (3) superficial cases of bone. In the first class curvature is commonest, but the last is most extensive, and is chiefly found in adults, accompanied with abscess. The contents of these abscesses is not true pus, but broken-down cells and tissues floating in a variable amount of fluid. This fluid when inoculated produces in guinea pigs tuberculosis. The pyogenic organisms take no part in the production of the chronic abscesses, but grow freely in their unexhausted contents, consequently the entrance of putrefactive ferments into the cavities causes chronic osteomyelitis of bone. Mr. Cheyne advocates two methods of treatment, one in which the abscess was cured without opening it, and by the injection of iodoform and glycerine or iodoform dissolved in ether, and the other method by antiseptic opening. Statistics of 56 cases under his treatment, of which 73.2 per cent. healed and 12.5 died. These were mainly psoas abscesses, but dorsal, lumbar and cervical were included. Cures are most numerous between 28 and 30 years of age. The average time of healing is found to be from eight to nine months. G. O. M.

DOMESTIC CORRESPONDENCE

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Diphtheritic Paralysis—Increase of Diphtheria in New York—Commencement of the College of Physicians and Surgeons.

At the last meeting of the Neurological Section of the Academy of Medicine, Dr. W. H. Thomson read an able paper on the *Clinical History, Pathology, and Etiology of Diphtheritic Paralysis.* In it he expressed the opinion that all the acute febrile diseases are accompanied by a post-latent stage, and that in diphtheria this post-latent stage is characterized by the paralytic trouble so frequently met with after an acute attack of this affection. Such paralysis he believed to be an essential part of the disease, due, in all probability, however, not to the disease itself, but to the presence in the system of certain resulting ptomaines. He thought, also, that some of the cases of diphtheritic paralysis were of peripheral, and some of central, origin.

In discussing the paper Dr. A. Jacobi said that there were undoubted cases of central origin on record, and that even a few instances of ataxia had been observed. He believed that Dr. Thomson was right in assuming that the paralysis was not to be taken as a

sequela of diphtheria, but rather as really part and parcel of the disease. If there was any affection which ran an indefinite course it certainly was diphtheria; this course sometimes being extended over many months. One difference between this and other contagious diseases was that, once having had it, the subject was all the more liable to subsequent attacks. In many cases, he believed, the repeated attacks noted simply indicated the continuous presence of the disease, which during the intervals remained hidden away in the tonsils or lymph-bodies, and was likely at any time to break forth afresh. As a rule, the paralysis first appeared in the fauces, affecting deglutition, and then successively involved the muscles of ocular accommodation and those of the extremities. Finally, there might be respiratory paralysis, which not infrequently proved fatal. This order could not, however, be relied upon in any particular instance, and in making a diagnosis in cases where there had been no throat symptoms, one of the main points to be depended upon was the fact that in diphtheritic paralysis only a comparatively small number of muscles are usually affected at the same time. Another point was the fact that the sphincter muscles are never, or almost never, involved in the paresis.

Paralysis sometimes came on during the acute stage of diphtheria. In heart failure, which was so common an occurrence in this disease, there was, no doubt, a failure of the heart nerves, either the sympathetic or the pneumogastric. This was an accident liable to occur in any case of diphtheria, and he said he had therefore always insisted on the free administration of alcoholic stimulants and cardiac tonics from the very first. After symptoms of heart trouble had once appeared it was usually too late for such remedies to be of any service. Respiratory paralysis was about as fatal as heart failure. Hence, the most energetic measures were called for to combat it, and strychnia and electricity should be pushed to the utmost extent possible.

Dr. Andrew H. Smith said it seemed to him very remarkable that we should so frequently have recovery from diphtheritic paralysis when the anatomical lesions were of so marked a character, and that the paralysis had always been somewhat of a stumbling-block to him in trying to accept the view that diphtheria is originally a merely local disease. He had no doubt that there were cases of diphtheria in which no membrane ever appeared, and the fact that instances were on record in which diphtheritic paralysis occurred without any previous throat symptoms certainly went to sustain the idea that diphtheria is essentially a general disease; while the membrane was simply an indication of it, just as the erythema of scarlatina was the outward manifestation of that disease. In scarlatina and the other exanthemata the eruption did not constitute the disease. Dr. Smith then referred to the case of a child whose mother had diphtheria in which the diphtheritic membrane appeared, not in the throat, but in the groin, where the skin had become chafed. It was also remarkable, he went on to say, that in cases of diphtheritic paralysis not preceded by the appearance of membranes in the throat the paresis usually began in the fauces. This would seem to indicate that diphtheria had a special predilection for this region, independent of the deposit of membranes there.

Dr. L. Putzel said that he did not understand exactly what Dr. Thomson meant by the post-latent stage of diphtheria. This disease was different from scarlatina because, in scarlatinal nephritis, the bacterium which was the exciting cause of the acute affection still remained in the system. It seemed to him that the acute attack of diphtheria left the nervous system in a weakened condition, in which any slight cause might bring on paralysis. As regards the fact that the paralysis usually makes its first appearance in the fauces, the reason for this seemed to be because the throat was so markedly affected in the acute attack. As to those rare cases in which paralysis occurs without any previous local trouble, he said he was not aware that a sufficient number of these had been observed to base any conclusions upon.

Dr. Malcolm McLean described a very severe and prolonged attack of diphtheritic paralysis which occurred in his own practice a few years ago, and in which he said that more muscles and a greater extent of cutaneous surface were affected than was usual in cases which recover. It lasted for four and a half months, and involved the muscles of respiration as well as those of the throat and of both the upper and lower extremities; but did not affect the sphincters. On the fourth day of the acute attack of diphtheria which preceded the paralysis symptoms of heart failure made their appearance, and the heart continued weak throughout the course of the subsequent paralysis. On one occasion the pulse, the ordinary rate of which was 52, fell to 32 (afterwards suddenly rising for a time to 160), and this was accompanied by a most violent attack of angina pectoris, which came very near proving fatal. The practical point which Dr. McLean said he wished to impress was the necessity in such cases of the most absolute rest. In his own case faradization and galvanism were systematically employed for a long time, and in order to receive the treatment he had to be taken in a carriage to the office of the physician who applied it. Although the electricity was given with the greatest skill, however, he only grew worse, instead of better, except as regards the original paralysis of the fauces, which in time became materially relieved. At length, so great was the pain and discomfort which he suffered, that he determined to take absolute rest in bed; and as soon as he adopted this course he began to improve. He remained in bed for a month, and so satisfactory was the result that he was firmly convinced that, in these severe cases, unless this absolute rest is insisted on, no other treatment will be of any avail.

Dr. S. Seabury Jones mentioned a case of tabes dorsalis that occurred in a druggist who had received a wound in the hand while assisting in a tracheotomy performed on a diphtheritic patient; the paralysis commencing in the injured hand. In such cases, according to Trousseau, the paralysis sometimes, however, attacked the throat first. He then referred to a case in which the trouble resembled bulbar paral-

ysis, although a good recovery was made under the use of strychnia and iron. In this case the patient was a woman who nursed her child through diphtheria, but, as far as could be ascertained, did not have any membranes herself, although she complained of sore throat at the time. Trousseau, he said, had long ago described in the most admirable manner all the varieties and characteristics of diphtheritic paralysis, and there was no question in his own mind that the lesion in this affection might be either central or peripheral.

The chairman of the Section, Dr. W. R. Birdsall, said that as regards the pathology of diphtheritic paralysis he also believed that, while in many instances there was simply a neuritis, cases of undoubted central origin sometimes occurred. In the latter, however, the central lesion was apt to give rise also to peripheral degeneration. In adults diphtheritic paralysis was relatively more common than in children, and it very often occurred in cases in which the original attack of diphtheria was very light. As to the matter of heart failure, it was a question, he thought, whether the trouble was of the same nature as the paralysis noted after the acute attack, or was merely functional in character; and a point against its paralytic origin was the early stage at which it occurred. As regards the etiology of diphtheritic paralysis, it seemed to him entirely possible that it might be due to the original poison which caused the acute attack of the disease; the delay in its appearance being perhaps attributable to the comparatively long time which it takes for such toxic agents to act upon the nervous system.

In bringing the discussion to a close Dr. Thomson said that he had purposely refrained from taking up the subject of heart failure in the paper, for the reason that it was attended with so many complicating circumstances. He doubted very much, however, whether it was due to the same cause as the later paralyses. In many instances he believed that myocarditis existed, and it seemed altogether probable that this was the fact, from the description given, in Dr. McLean's case. He had not touched upon the matter of therapeutics in the paper; but he quite agreed with Dr. McLean that electricity was of no value in diphtheritic paralysis. It was highly desirable, he said, to stimulate the peripheral extremities of the nerves, and this could best be accomplished by applying to the throat equal parts of honey and black pepper. In paralysis of the extremities a solution of pepper (1 drachm to the pint) was also a useful local application. As to Dr Putzel's criticism of his so-called post-latent period of diphtheria, Dr. Thomson said that the paralysis was to him an indication of certain processes going on subsequently to the acute stage, and that he could but again express his conviction that a similar post-latent stage was characteristic of all the acute fevers. This post-latent stage varied in its manifestations in the different diseases, and it seemed highly probable that its phenomena were due to the action of ptomaines.

The increase of diphtheria in this city of late years is clearly shown in some statistics recently published by the Health Department. From these it appears that during the ten years from 1868 to 1878 there were 1,488 deaths reported from diphtheria and croup, and during the ten years from 1878 to 1888, 2,295; the percentage of the total death-rate of the city being 1.52 in the former decade, and 1.72 in the latter.

The first Commencement of the College of Physicians and Surgeons in its new buildings was held May 10, when a class of 120 was graduated. On this occasion the first Harsen prize ($500), for the best examination in all the branches of study, was awarded to a son of Professor Henry B. Sands.

The New York Medico-Legal Society has begun to make preparations for an International Congress of Medical Jurisprudence to be held in this city in June, 1889.

P. P. P.

CINCINNATI LETTER.

Report of the Cincinnati Hospital; Mortality from Typhoid Fever and Sunstroke—Symptoms in Typhoid Cases—Complications in Acute Rheumatism—Hemiplegia—Phthisis—Complications in Bright's Disease—Injuries followed by Tetanas—Obstetrical Statistics—Death of Eminent Medical Men—Dr. C. D. Palmer.

The twenty-seventh annual report of the Cincinnati Hospital has just been issued, and it is the best report that has ever been issued from that institution. It gives evidence of much care in its arrangement and painstaking in the material selected for publication. The following quotation from the report of the medical staff will suffice to show where a large part of the credit for the admirable report belongs: "All of these cases have been carefully classified according to the nomenclature of the Royal College of Physicians of Lowdon, 1885, in a very extended form, by Mr. P. Alfred Marchand, Registrar to the Staff, and it is hoped it will be regarded as an important contribution to the statistics of the general hospitals of the world."

In a previous letter it was mentioned that the clinical and Pathological School of the Cincinnati Hospital had become a department of the University of Cincinnati; and the report, in speaking of the union, says: "The organization authorized by your Board of the Staff Service, under the title of the Clinical and Pathological School of the Cincinnati Hospital, and its union with the Medical Department of the University of Cincinnati, has been most successfully accomplished, and as one result the number of students attending the course of clinical lectures has doubled, and thereby the income for the support of the Library and Pathological Museum has been increased by $1000."

The total number of patients treated during the year amounted to 4,027, of whom 352 died; thus making a death-rate of 8.3 per cent. The death-rate for the previous year, ending Dec. 31, 1886, was $8\frac{3}{5}$ per cent. From this it appears that the death-rate for the year 1887 is $\frac{3}{10}$ per cent. higher than that of the preceding year.

The increased mortality may be largely explained, however, by a reference to the table of diseases. Here we find recorded 34 deaths from typhoid fever,

and 16 from sunstroke. The large number of these cases that occurred during the year, and their mortality will be amply sufficient to account for the slightly higher death-rate.

The mortality from typhoid fever was 16.25 per cent. Thirty-four out of 209 cases terminated fatally. This mortality is not excessive for hospital cases, for a considerable proportion of the fatal cases were moribund when admitted. The type of typhoid fever that prevailed here during the early winter months was mild, and this factor must enter into consideration as helping to explain the low mortality.

The total number of medical cases treated during the year amounted to 1,937, of surgical, 1,509; ophthalmological 206, and obstetrical and gynecological 390. The average number of days of each patient's stay in the hospital was for medical patients 17.58 days; surgical 30.31 days; ophthalmological 51 days, and obstetrical and gynecological 30.19.

Some observations of interest as regards the symptoms and complications of particular diseases are also set forth in the report. For instance, in typhoid fever cases we learn that 152 out of 209 cases occurred in males. Diarrhœa was present in 78 of these cases; 37 had vomiting; 46 had cough; 37 had vomiting; 46 had cough; 35 had delirium (an unusually small proportion); 50 had sweating; 18 had epistaxis; 60 had rose-spots; 72 had gurgling; 52 had tympanitis; the highest pulse was 180; highest temperature 113.5 (?). Of the females, 23 had diarrhœa; 24 had vomiting; 18 had cough; 8 were delirious; 13 had sweating; 7 had epistaxis; 22 had rose-spots; 25 had gurgling; 17 had tympanitis. The highest pulse was 190; temperature 105.4. One had perforation of the intestines; 2 had intestinal hæmorrhage; 1 had peritonitis; 1 had phlebitis; and 1 had diphtheria.

In the cases of acute rheumatism treated the following complications were noted: Twenty-eight had mitral insufficiency; 1 had chronic alcoholism; 1 had aortic insufficiency; 1 had erysipelas; 4 had mitral stenosis; 1 had mitral insufficiency, aortic stenosis and insufficiency; 2 had aortic stenosis; 1 had mitral stenosis and insufficiency; 1 had pleuritic effusion.

Seven cases suffering with hemiplegia had syphilis and one had syphilitic cerebral thrombosis. One case of chorea was complicated by subacute rheumatism.

Among the phthisical cases there were found two who also had mitral insufficiency. This combination, is uncommon, but that valvular disease of the heart does sometime coexist with phthisis is proven by these statistics.

The complications noted as being found with Bright's disease are the following: Two had œdema of the brain and mitral insufficiency; 1 had acute gastritis; 1 had tuberculosis; 2 had valvular disease of the heart; 2 had erysipelas, developed in the hospital; 1 had phthisis; 1 had mitral stenosis; 1 had delirium tremens, and 1 had mitral insufficiency.

A very interesting portion of the report is that devoted to the details of treatment adopted by each member of the Staff in typhoid cases. These reports are well written and carefully prepared, so that one can very profitably read them carefully, and perhaps obtain some ideas that may be of future service.

A feature of the surgical report that is at very great variance with the reports published abroad is in regard to character of injuries followed by tetanus. Nicolaier and Rossback in some statistics showed that tetanus usually, in fact almost always, occurred in cases in which the lower extremities were the seat of wounds, and from this fact argued that the bacillus of tetanus was found in the earth; this report shows that the cases in which tetanus developed were confined exclusively to injuries of the hand and arm: thus one had a laceration of the hand; one had a lacerated wound of the index-finger, and one had a mashed hand.

The appendix to the obstetrical report furnishes some very interesting features, which will probably be of interest to many readers. There were 234 women delivered during the year; about 65 per cent. of whom were primiparæ; 20 per cent. were duiparæ; 1 had twelve previous pregnancies. The average age of the primiparæ was 21 years and 10 months. The youngest primipara was 16; the oldest 37. The average age of the multiparæ was 25 years and 10 months. The youngest multipara was 17 and the oldest 42.

Average duration of labor.—Primiparæ: 1st stage 16 hours, 10 minutes; 2d stage 2′ 20″; 3d stage 14″. Multiparæ: 1st stage, 10′ 15″; 2d stage, 2′ 18″; 3d stage 12″.

Presentations,—Primiparæ: vertex, 147; breech 6. Multiparæ: vertex 75; face 2; breech 3; footling 1.

Positions. — Primiparæ: S. O. A., 95; R. O. A., 45; R. O. P., 3; S. D. A., 4; R. D. P., 1; R. D. A., 2; unknown 3.

Sex of children.—Primiparæ gave birth to 75 male and 75 female children; multiparæ to 45 male and 37 female. In two cases of twins both were females. Primiparæ: male children weighed 7⅔ pounds, and were 18¼ inches in length; female, weight 7 pounds and length 18 inches. Multiparæ: male, weight 7 pounds, 4 oz., and length, 16 inches; females, weight 7 pounds, 4 oz., and length 18 inches.

The heaviest male child 12¼ pounds, the lightest 3 pounds; female, heaviest 10 pounds, lightest 3½ pounds. Premature labor occurred in 10 cases.

These extracts from the report will serve to give a fair idea of the work of the past year, as well as to indicate the fact that much credit is due the resident physicians for their careful and painstaking preparation of the clinical histories.

During the past year the local profession has been singularly unfortunate in losing the services of four valuable members. Drs. Dun, Heighway Muscroft and Aub have been called away, and Dr. C. D. Palmer met with an accident, which to say the least, will incapacitate him for a considerable space of time. As these are all men who were prominent in medical work, men possessed of large experience and liberal views, it will be found a very difficult matter to fill their places.

J. C. O.

POTASSIUM PERMANGANATE IN ANTHRAX AND FURUNCLE.

Dear Sir:—Further experiment with this salt on the line indicated in my communication some months since[1] warrants me in announcing it as a veritable specific against many phlegmonous lesions.

The strength of the solution employed is usually about gr. x–℥j of distilled water, though a much stronger preparation may be used with safety. With a cotton-tipped probe or hypodermic syringe attempts should be made to reach the *fons et origo mali*. A few drops thus brought into contact with the *cone* of a recent boil will, in a majority of instances, abort it. Or if the furuncle be already opened and suppurating, its tedious progress may be materially abridged by daily saturating the cone and its surroundings with the solution.

If, on the other hand, we have a carbuncle to contend with, its focus of inflammation may be reached through one or more of the cribriform avenues, the site of which can be made out even before pus has appeared on the surface.

Within the present month I have cured two large carbuncles, which involved the nuchal regions of two elderly men. In one case the induration extended to the spine of the scapula on one side and for several inches on the other. Neither of the gentlemen had been free from acute pain nor slept for more than forty-eight hours. I described to them the new treatment but, recognizing the importance of prompt action, advised immediate and full incision. Each of the two chose to try the new remedy first, and it was so done. The result, as shown on the following day, was all that could be desired; rest had been secured, and the entire aspect of affairs had changed for the better. The dressing employed, meanwhile, was a lead and opium, or permanganate, lotion covered with oil silk. Tonic treatment was advised rather as a prophylactic, for the treatment of neither case occupied a week.

Phlegmonous erysipelas is so rarely seen here that I may never have an opportunity to test the remedy in that direction, but I suggest that the inflamed area be circumscribed or environed by a series of deep injections, with a superficial dressing of the same. I should certainly expect to arrest the disease. Let us hope that some of your readers will test the process and report. C. M. FENN, M.D.

San Diego, Cal.

RAILWAY INJURY OF NECK, WITH FRACTURE OF HYOID BONE.

Dear Sir:—Mr. T., on May 4, while at work in the mine was caught between a car and the roof. When called to see him I found marks behind the ears which looked very much as if the man had been hung. On examination of the anterior right side of the neck found a large wound made by an iron on the car. The æsophagus and trachea were exposed from the cricoid to above the lupoid bone. The piece seemed to have passed behind the anterior tissues nearly through from right to left. The thyroid cartilage was considerably bruised and the hyoid bone was completely severed just to the right of the centre.

It was a question how to hold the ends of bone together, I having no silver wire and could get none in the city. The patient could swallow only with the greatest difficulty, and in the recumbent position breathing was difficult. I concluded to try silk. I first put a stitch below each piece, which were separated about one-half inch, and thus brought the ends nearly into position; I then passed a large silk thread through the pieces and was then enabled to get good opposition. The wound was then closed and the ends of thread brought to the lowest point. It healed nicely. In a few days the lowest thread came away, and to-day, three weeks after, the one through the bone was removed.

For the first two days there was considerable rise of temperature. but that subsided under treatment and the man made a good recovery.

C. W. HAWLEY, M.D.

Streator, Ill., June 6, 1888.

[1] Vide Southern California Practitioner, May, 1887.

"ELEVATING THE STANDARD," AND HOW EASY IT IS DONE.

Dear Sir:—Aside from the plain proposition that the elevation of any standard is the duty of the one bearing it—the method so long discussed—of its application to the proper qualification of students entering medicine—is no less simple. Exactly as the terse rule "that the proper way to resume specie payment, was to resume specie payment," solved a great financial problem. So does the above A B C method settle this old question of an over-crowded profession by unqualified members. Witness the proof. During the past year the writer has received from three young men, applications as office students. Although each applicant was bright, ambitious, and in a general sense promising, it was only requisite to state to the candidate the preliminary qualifications required by schools of the highest standard, to convince them that they could not enter. One is now equipping himself wherein he was deficient, and the other two have entered vocations the demands of which they are amply qualified to meet, as proven by success and satisfaction already attained.

Here, Mr. Editor, are two young men rescued from a life struggle with semi-starvation, a profession slightly relieved, and the world at large benefitted. The way to resume is to *resume*, and the way to elevate the standard of medical acquirement is for the colleges to elevate it. H. C. MARKHAM, M.D.

Independence, Iowa.

NECROLOGY.

THE DEATH OF DR. EDWARD S. DUNSTER.

WHEREAS, It has pleased Almighty God to remove from his earthly sphere our worthy companion and professional brother, Dr. Edward S. Dunster, of Ann Arbor, Mich., therefore, be it

Resolved, That we as a Society tender to his grief-stricken family our heartfelt sympathies.

To the profession before whom he has appeared so eloquent in address, logical in his reasoning, honest in his opinions, which he maintained with his utmost power, and above all, his loyalty to his profession he so dearly loved, and for whose best interests he so long and sedulously labored, we can only say that the loss of one so eminent can illy be told in resolutions or words; in this the heart alone can speak.

In obedience to the Almighty power that rules the destinies of men, that can build up or cast down, that can give or take away, we bow in humble submission about the bier of our departed friend, fellow-member and professional brother. Be it further

Resolved, That our Secretary transmit a copy of these resolutions to the press and to the family.

WM. BRODIE, M.D.,
HAL C. WYMAN, M.D.,
C. HENRI LEONARD, M.D.,
Committee.

Office of the Sec'y of the Wayne Co. Medical Society, Detroit, May 4, 1888.

BOOK REVIEWS.

THE SURGICAL DISEASES OF THE GENITO-URINARY ORGANS, INCLUDING SYPHILIS. By E. L. KEYS. A.M., M.D., etc. A Revision of Van Buren and Keys' Text-book upon the same subjects. 8vo, pp. xv, 704. New York: D. Appleton & Co. 1888. Chicago: A. C. McClurg & Co.

Since the appearance, in 1874, of the original treatise upon which this revision is founded there have been many changes and much progress in the surgery of the genito-urinary organs: litholapaxy has had its birth and development, supra-pubic cystotomy has received new study and attention, new methods of exploring and operating upon the bladder have been studied and brought to some degree of perfection, the surgery of the kidney has been reconstructed, as has been, to a great extent, that of the tunica vaginalis and of varicocele, and our therapeutic resources in syphilis have been added to and greatly strengthened. It is to be expected, therefore, that this revision differs much and in many particulars from the work of 1874—and such is the case. The book has been entirely recast. The clinical cases of the original work have been omitted in order to make room for new matter.

Masterly as is the book there are in it, in our opinion, two serious defects: there is not one word in it, so far as we have been able to discover, concerning the treatment of stricture of the urethra by electrolysis; and the subcutaneous use of mercury in syphilis is dismissed in a paragraph as being scarcely worthy of consideration. We can but think that the failure to even mention electrolysis was due to inadvertence—surely it could not have been intentional. Whatever may be the future estimate of the value of electrolysis in the treatment of certain cases of stricture of the urethra, the statistics now at hand show that the method is at least worthy of mention by the author of a work of this kind—whatever be his individual opinion on the subject. It is the duty of the author of a scientific work to present facts as they are, not as he wishes they were—and we believe that Dr. Keyes, writing to present facts as they are, or as he thinks they are, must have overlooked the subject of electrolysis.

As a whole the book is one that will bear the closest study, and is entitled to the same high rank in medical literature that was given the original work.

THE PHYSICIAN'S BEDSIDE RECORD. The Plimpton Mfg. Co., Hartford, Conn.

This was designed for the purpose of keeping a permanent record of the clinical features of disease, recorded at the patient's bedside. It comprises a page for the preliminary history of the case; twenty-eight pages for the recording of as many days' observations, ruled one line for each hour of the day, with spaces for pulse, temperature, respiration, medicine, notes of nurse, and directions and notes of physician; following these are three closely ruled pages for the physician's notes or history of the case; and concluding, there is a chart for a tracing of the pulse, temperature and respiration, showing at a glance the variation for each day of the disease.

While most physicians probably have a method of their own for case-taking, this pamphlet book will prove exceedingly useful, especially for the preservation of records of cases of protracted illness, as of typhoid fever, etc. If by its convenience it encourages more universal case recording, it will accomplish much good.

MEDICAL PUBLICATIONS, HARVARD MEDICAL SCHOOL.

This is a neatly bound volume comprising papers upon medical subjects that have been written during the year 1887 by the Faculty and instructors of Harvard Medical College. The papers as they appear here are reprints from various periodicals that have been collected and bound together. The subject-matter of each is interesting, and only articles of originality have been admitted to the collection.

MISCELLANEOUS.

ASSOCIATION OF AMERICAN INSTITUTIONS FOR IDIOTIC AND FEEBLE-MINDED PERSONS.—The twelfth annual session will commence at the Rossin House, Toronto, Canada, on Monday, June 18, at 3 o'clock, P.M., moving to Orillia on the following morning. By resolutions of previous sessions, the following reports will be called for: "On Causation of Idiocy, etc.," Sperintendents reporting from their earliest received cases. (min. p. 28.9) "On Status of the work before the people and legislatures of the various States," (min. p. 43.) "On Development and Progress of the Institutions represented." "Improvements in School Training and Hospital Care introduced during the past year." "Clinical reports of special cases," (min. p. 41.)

The following papers have been promised:

1. The Annual Address, by Dr. George H. Knight, of Lakeville, Conn.

2. "Clinical Notes on 'Mongolian' Idiocy, and pathological examination of two cases," by Dr. A. W. Wilmarth, of Elwyn, Penna.

3. "Special treatment of Paralytic and Epileptic Idiocy." by Dr. A. E. Osborne, of Santa Clara, Cal.

4. "Industrial Education at the Kentucky Institution," by Dr. J. Q. A. Stewart, of Frankfort, Ky.

5. "Kindergarten for Feeble-minded Children," by Dr. S. J. Fort, of Ellicott City, Md.

6. "A study of twenty cases of Hemiplegic Idiocy, at Elwyn," by Prof. Wm. Osler, of Philadelphia, Penna.

7. "Notes on Examination of Eyes, at Elwyn," by Dr. Chas. Oliver, of Philadelphia.

8. "What is meant by Physiological Education," by Dr. Isaac N. Kerlin, Elwyn, Penna.

9. "The present condition of the Education of Imbeciles in Great Britain," by George E. Shuttleworth, M.D., Royal Albert Asylum, Lancaster, England.

ISAAC N. KERLIN, *Secretary.*

Elwyn, Penna., June 1, 1888.

THE LATE DR. A. B. PALMER.—The following resolutions were adopted at a meeting of the Executive Committee of the Ninth International Medical Congress, held at Cincinnati, May 9, 1888:

Resolved, That this Committee desire to place on record its sense of profound sorrow at the death of our late associate, Dr. A. B. Palmer.

Resolved, That we, in common with his professional brethren throughout the country, deplore the loss of so gifted and zealous a laborer in the cause of medical science, whose brilliant achievements during a long and useful professional life was fitly supplemented by his many private virtues.

Resolved, That we extend to his bereaved family our sympathy and sincere condolence.

CHICAGO MEDICO-LEGAL SOCIETY.—At the annual meeting of the Chicago Medico-Legal Society, held June 2, 1888, the following gentlemen were elected officers for the ensuing year:

President, Dr. E. J. Doering.
First Vice-President, Dr. Boerne Bettman.
Second Vice-President, Eric Winters, Esq.
Treasurer, Dr. L. L. McArthur.
Secretary, Dr. Scott Helm.

THE NATIONAL ASSOCIATION OF RAILWAY SURGEONS will hold its first meeting in the city of Chicago, in Parlor O of the Palmer House, June 28, 1888, commencing at 9:30 A.M. Every surgeon who is in the employ of any railway company is invited to this meeting. For further information apply to the Chairman of the Committee of Arrangements, Dr. C. B. Stemen, Ft. Wayne, Indiana.

INDIANA STATE MEDICAL SOCIETY.—At the annual meeting in Indianapolis, June 6, 1888, the following officers were elected for the ensuing year: President, Wm. H. Wishard, M.D., Indianopolis; Vice-President, Albert G. Porter, M.D., Lebanon; Treasurer, C. B. Higgins, M.D., Peru; Secretary, E. S. Elder, M.D., Indianapolis; Assistant Secretary, C. H. Light, M.D., Madison.

NEW YORK STATE MEDICAL ASSOCIATION—*Fifth District Branch*, will hold its sixth special meeting at Babylon, Suffolk Co., N. Y., on Tuesday, July 31, 1888. E. H. Squibb, M.D., Brooklyn, Secretary.

THE MITCHELL DISTRICT MEDICAL SOCIETY will hold its semi-annual meeting at the French Lick Springs, Indiana, June 21, 22 and 23, 1888, commencing at 10:30 A.M.

NEW YORK STATE MEDICAL ASSOCIATION.—The Third District Branch will hold its fourth annual meeting in Odd Fellows' Hall, Norwich, Chenango Co., N. Y., Thursday, June 21, 1888, commencing at 10 A.M.

NEW BOOKS RECEIVED.

Inebriety, by Norman Kerr, M.D. Philadelphia: P. Blakiston, Son & Co.

Abdominal Surgery, by J. Gerig Smith. Second edition. Philadelphia: P. Blakiston, Son & Co.

The Physician's Leisure Library, No. 9. The Infectious Diseases, by Karl Liebermeister, Vol. II. Detroit: Geo. S. Davis.

The Language of Medicine, a manual giving the origin, etymology, pronounciation and meaning of the technical terms found in medical literature, by F. R. Campbell, M.D., A.M. New York: D. Appleton & Co.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM MAY 26, 1888, TO JUNE 8, 1888.

Major Robert H. White, Surgeon, will report to regimental commander First Infantry, to accompany Hdqrs. Field, Staff, Band, and battalion of First Infantry to Santa Barbara, Cal., on or about June 15, 1888, to remain until about September 1, 1888. S. O. 25, Div. Pacific, May 28, 1888.

Capt. S. G. Cowdry, Asst. Surgeon, ordered to accompany the troops of the Sixteenth Infantry from Ft. Bliss, Tex., to Ft. Douglas, U. T., as medical officer. Will return to his station upon the completion of said duty. S. O. 54, Dept. Texas, May 19, 1888.

Capt. D. M. Appel, Asst. Surgeon, upon arrival of Capt. J. V. Lauderdale, Asst. Surgeon, at Ft. Davis, will proceed to Camp Pena Colorado, Texas, for temporary duty at that camp, and upon return of First Lieut. H. S. T. Harris, Asst. Surgeon, to Camp Pena Colorado, Asst. Surgeon Appel will return to Ft. Davis. S. O. 57, Dept. Texas, May 28, 1888.

First Lieut. J. R. Kean, Asst. Surgeon, will accompany Troop C, Ninth Cavalry, from Ft. Robinson, Neb., to Ft. DuChesne, Utah, and return with Troop B, Ninth Cavalry, to Ft. Robinson. S. O. 39, Dept. Platte, May 19, 1888.

First Lieut. E. R. Morris, Asst. Surgeon, granted leave of absence for one month, with permission to apply for an extension of one month. S. O. 61, Dept. Ariz., May 28, 1888.

Capt. James A. Finley, Asst. Surgeon, granted leave of absence for six months, on surgeon's certificate of disability, with permission to leave the Div. of the Missouri. S. O. 129, A. G. O., June 5, 1888.

Capt. Robt. B. Benham, Asst. Surgeon, is relieved from duty at Ft. DuChesne, Utah, to take effect upon completion of the duty assigned him in par. 2, S. O. 33, c. s., Dept. Platte, and will then proceed to Ft. Laramie, Wyo., reporting to the commanding officer for duty at that post. S. O. 44, Dept. Platte, June 4, 1888.

First Lieut. James E. Pilcher, Asst. Surgeon, detailed as member of board of medical officers appointed by S. O. 108, A. G. O., May 10, 1888, to meet at U. S. Military Academy, West Point, N. Y., to examine candidates for admission to the Academy, etc., vice Major Robert M. O'Reilly, Surgeon, relieved. S. O. 128, A. G. O., June 4, 1888.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING JUNE 9, 1888.

Surgeon A. F. Magruder, detached from the "Yantic" and granted sick leave.

Medical Inspector N. L. Bates, ordered to the "Richmond."

Medical Inspector B. F. Kidder, detached from the "Richmond" and wait orders.

Surgeon B. F. Maclise, detached from Naval Examining Board preparatory to sea service.

Surgeon T. C. Heyl, ordered to the receiving ship "St. Louis."

Surgeon T. H. Streeter, from "St. Louis" and to Medical Examining Board as recorder.

P. A. Surgeon W. R. DuBose, from Naval Hospital, Norfolk, and to the "Jamestown."

P. A. Surgeon Howard Wells, from the Jamestown" and to Naval Hospital, Chelsea.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE WEEK ENDING JUNE 9, 1888.

Surgeon P. H. Bailhache, detailed as chairman Board of Examiners, to meet in Washington, June 25, 1888. June 8, 1888.

Surgeon C. S. D. Fessenden, detailed as member Board of Examiners, to meet in Washington, June 25, 1888. June 8, 1888.

Surgeon George Purviance, detailed as recorder Board of Examiners, to meet in Washington, June 25, 1888. June 8, 1888.